The Province of Alberta

PETROLEUM AND NATURAL GAS CONSERVATION BOARD

IN THE MATTER OF THE GAS RESOURCES PRESERVATION ACT

AND IN THE MATTER of a Joint Hearing to determine various questions relating to the proposed Export of Natural Gas from the Province of Alberta.

I. N. McKinnon Esq., Chairman

D. P. Goodall Esq.

Dr. G. W. Govier

Session: December 5th, 1951.

Volume 28.

E R R A T A

VOLUME 26

Page	Line	Correction
2300	22	Delete the word "no".

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I N D E X

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W I T N E S S E S

E X H I B I T S

VOLUME 28.

December 5, 1951.

THE CHAIRMAN: Mr. Nolan, I wonder if you could have Mr. Dunkley here tomorrow morning?

MR. NOLAN: Yes.

THE CHAIRMAN: The first thing in the morning?

MR. NOLAN: Yes, I will arrange that. He was here a few minutes ago. Perhaps he has gone. However, I will arrange that. May I ask Mr. Shattuck one or two questions?

THE CHAIRMAN: Yes.

J. G. SHATTUCK, recalled, already sworn, cross-examined by Mr. Nolan, testified as follows:

Q Mr. Shattuck, yesterday you gave us certain information about competitive fuel prices?

A Yes.

Q Let us say, for example, in the city of X there is an industrial user A and an industrial user B?

A Yes.

Q And the fuel that A uses is more expensive than the fuel that B uses. Now, in the event of their converting to gas would there be two prices, one for A and one for B?

A I think that is a question which the distributor will have to answer in the finality, Mr. Nolan. I believe he has the choice of charging the same rate or a different rate.

Q Let us just approach it in this way, Mr. Shattuck, that there is no distributor other than yourself, I mean, no distributing company intervening, and you are selling to an industrial

user direct. Would you have one price or two prices, or many prices?

A The applicant has not advised me if they have settled that question, but I would advise them to charge on the basis of the type of service which is offered, and if one customer will procure through a higher payment a better or more continuous service to charge them a higher price for that.

Q As we say in the freight rates, "what the traffic will bear".

A That is, in substance, true.

Q Yes. Now, how do you reconcile that with the action that, I suppose, would be taken by regulatory bodies?

A Well, my recommendation would be based upon the type of service given. I would not advise the applicant to take advantage of the difference in prices to any greater extent than they could justify.

Q Do you think that the regulatory bodies . . .

A May I finish my answer first?

Q Yes.

A Excuse me, Mr. Nolan, I was just catching my breath. That is, if there was a regulatory action.

Q Yes?

A That is the end of the sentence. I would advise them to do that.

Q Yes. But it is not to be supposed, is it, that regulatory action imposes a different price for different users?

A Such exists, you know, in a great number of places that have regulatory commissions.

Q I mean, within the class, I mean, within the industrial, or commercial or domestic class, surely there would be only

one price per class?

A Some utility companies have been able to maintain a great number of classes, and, of course, within one class the rate is the same, but across the board of industrial consumption there is quite a range of rates.

Q Well, then, to sum it up, you say that the prices would vary according to the value of the service provided?

A I believe that is a good statement.

Q Yes?

A I think that is right.

Q All right, thank you.

EXAMINATION BY MR. C. E. SMITH:

Q Mr. Shattuck, I do not want to continue with what was dealt with by Mr. Martland and Mr. Milvain yesterday too long, but I still do not understand one thing having regard to your submission in an exhibit before exhibit 90, for instance, exhibit 87, referring, for instance, to the second page, and Toronto in the top line, and in your second column, do I understand you have a range there of 37 to 43, for nut slack and other coal in Toronto. Now, having regard to your costs, I mean, you are not going to replace that, as I understand it, with the lowest price, insofar as that is concerned? You just cannot do it?

A I did not follow the question. May I have it read?

BY THE REPORTER: "Mr. Shattuck, I do not want to continue with what was dealt with by Mr. Martland and Mr. Milvain yesterday too long, but I still do not understand one thing having regard to your submission in an exhibit

before exhibit 90, for instance, exhibit 87, referring, for instance, to the second page, and Toronto in the top line, and in your second column, do I understand you have a range there of 37 to 43, for nut slack and other coal in Toronto. Now, having regard to your costs, I mean, you are not going to replace that, as I understand it, with the lowest price, insofar as that is concerned? You just cannot do it?

Q MR. C. E. SMITH: I will put it in another way, to replace that with gas you are going to lose money, is that a fair way of putting it, having regard to the range?

A I have not estimated it with regard to replacing coal, other than allowing 25 cents a ton for handling after the plant buys it. I have made no estimate that we are to sell gas to any customer at a lower price than that.

Q Now, are you going to replace a lot of this stuff that is set out in these exhibits by gas?

A Yes, sir, quite a lot of it.

Q And if you do, having regard to the figures in many of the exhibits, you are going to do so at a loss, isn't that correct?

A No, because of the proportion that we have taken has been the higher price proportion.

Q Well, then, to what do you allocate the higher prices, domestic and commercial, for instance?

A No, I thought we were talking about industrial only, Mr. Smith.

Q Okay. Then you say that you can sell some people industrial at what I would call a loss but other people at a gain, in that level, is that what you mean?

A No, it is not. What I mean is that we will sell at a price

which some users would have it at quite a gain, but others would have an even break, and would not sell to any at what would be a loss.

Q Well, then, I take it that some users of some of this fuel referred to in these exhibits, you don't know whether you would ever sell them, is that correct?

A That is correct.

Q And there is no way of distinguishing them in this submission, I take it?

A No, sir. I could tell you of the total amount of gas, that is, of the amount of gas which would replace the total amount of fuel consumption in the plants from whom we have obtained information. We have used about 50%.

Q Well, then, we will talk about what Mr. Martland was asking you yesterday. The plants from whom you received information, that includes the price, I take it?

A Yes, sir.

Q And that is something that your counsel points out you should not give to this Board, is that correct?

A Well, I do not know that he said it. I said it, because we obtain it from them with the understanding that their name and that data would not be presented, and the data would be presented only in an aggregate fashion.

Q There is no way to find out just what you might replace in the way of fuel in this market area that you have dealt with, is that right?

A I do not think that is right, sir. I believe, though, I can give additional information which would indicate how much of the fuel is sold at various price intervals, without

violating that confidence.

Q And to replace even generally what you have dealt with in your submission?

A I believe so, surely.

Q Could you do it now or do you mean it will take some further time?

A No, I believe I could give you a few figures that would indicate that. You might ask me a lot of detail that I have not calculated.

Q It is not likely that I will do that, Mr. Shattuck, ask for a lot of detail.

A I have a summary of the quantities of fuel which was used by the plants we surveyed. This is not all of the plants, the industrials, in the area, I am sure you will understand, and I have taken no step to extrapolate that to represent a total market in the area. I have just taken it as it stands. There is no allowance made for the growth in the territory between our survey dates early in this year to our expected date of service.

The total fuel consumption from all plants amounted to 130, the equivalent of about 130 billion cubic feet. Now, I have that broken down by price intervals which are equivalent to $1.25 of 27 million BTU per ton coal. It just happened to be worked out in those units. That amounts to about 4-6/10th cent intervals. Taking into account the increase in freight rates and the increase in mine labour costs, which I referred to yesterday, approximately 26 cents. Well, I will read the exact figures I have in my work sheet. 25.9 to 30.5 cents, 2.3% of the

fuel purchases. 30.6 to 35.1, 2.1%. 35.2 to 39.7, 26-6/10%. 38.9 to 44.3, 27-6/10%. 44.4 to 49 even, 17-7/10%. 49.1 to 53.6, 5-9/10%. 53.7 to 58.2, 5.4%. I have quite a number of more intervals but the next seven add to 7.8%, and the balance of it is about that, amounting to, that is, up to 90.6 cents, and above that 2.9%. I believe that will add to 100, if I have not made a mistake in summarizing it.

Q I do not know whether I follow what you have said, or from what you have said, but what you have said now gives us a good idea what you will replace by way of gas other fuel?

A I believe it does. I believe it gives you the opportunity to compare the range of rates with regard to the 40 to 65 cents for industrial. You see that there is a considerable incentive for a fair portion of the amount that I estimated, which is 52% of this 100% maximum incentive, or, I mean, which is 52% of this 100% and some incentive for a large a part of it. For example, above 40 cents, there is 69% of the fuel purchased.

(Go to page 2493.)

J. G. Shattuck,
Exam. by Mr. C.E. Smith.

Q 69 per cent of the fuel purchased. You mean 69 per cent replaced by gas?

A No. We estimated that of this total only 52 per cent would be replaced.

Q Of the total?

A Yes, of the total. We have not estimated all of the fuel down to 40 cents even as being replaced.

Q From the figure you have given we can also get the range percentage?

A I believe that is right.

Q I could not follow you as you went along. You assume we can do that?

A I believe you can. At least, that is the basis of my judgment.

Q Nothing else you can add to assist us there, Mr. Shattuck?

A It doesn't occur to me that you need anything more than that.

Q 52 per cent is of your total estimated industrial market, is that correct?

A No, sir. The 52 per cent is the ratio, the mathematical ratio, between our estimated sales and the interruptible industrials and the quantities of fuel used by the plants contacted. This equivalent of 130 billion cubic feet of gas could be increased by two factors. One could account for growth and one could account for the fact that you did not have a 100 per cent sample of the market.

Q Now, that latter statement thoroughly confuses me. I have not yet got what I was trying to get at, namely, what are you going to replace in this estimated market of yours by

way of substituting gas for other fuel, such as coal, and how you can do it in many cases where there is such a short range in price. Can you help me in that?

A Yes, I believe I can. Gas will replace coal in most markets where it has been introduced at an even price for a certainty, and generally at a slightly higher price assuming that it will replace it at an even price and that you are able to sell gas at 40 cents. Then if you take the entire amount of that in the plants which we contacted you would have an estimate of industrial sales about 30 per cent higher than our estimate. Now, if, on the other hand, you wanted to take some smaller quantity you would find that there is an apparent break-even point. The figures here would not give that exactly but you could estimate it to be about, maybe, 42 or 43 cents. That is apparent only because in some cases the pipeline will find it advantageous, no doubt, to sell gas under 40 cents and so they will take some of the other market.

Q That is what is bothering me, how someone can cart apples down at 50 cents and sell them at 40 cents.

A I hope I have not said that, Mr. Smith.

Q According to this you would have to do it, wouldn't you?

A I do not know why you would assume it was 50 cents to take an Mcf. of gas down and sell it to an industrial customer in Toronto.

MR. PORTER: You have evidence that the average cost is 38 cents plus your gas price.

Q MR. C.E. SMITH: Well, then, I am wrong to assume that that is what we are entitled to assume, that

the cost to take it to Toronto is approximately 50 cents?

A The average cost to take all the gas that is to be taken to Toronto is approximately 50 cents.

Q And if you sell some of it at 40 cents you are going to sell some of it at 60?

A If you sold half and half, yes.

Q Are you going to sell half to commercial at 60, is that the idea?

A To residential and commercial, city gate for re-sale.

Q Where are we going to level off?

A You are going to level off about 50 and you are going to get a range from about -- I had a sheet of paper on which I had it noted -- I will give it to you from memory and correct it later if I am wrong. A range of prices in the neighbourhood of, say, 50 to 60 cents on re-sale gas, that is, gas sold to distributors at the city gate, and 40 to 55 on gas sold directly to industrials.

Q That is as close as we can get to what Mr. Martland wanted?

A Until contracts are entered into and negotiations settled I do not think we can get much closer than that.

Q If I may, there are just a couple of small questions from you. First, the submission, Exhibit 57, and I won't waste much time on it, you do not need your submission. Did you make any market survey in the City of Saskatoon in Saskatchewan?

A No, sir.

Q You were not asked to do that, I take it?

A No, sir.

Q And in Exhibit 57, will you refer to Table 2. There is

no page number, Mr. Shattuck. It is headed, "Estimated Total Requirements first five years"?

A Yes, sir, I have it.

Q And having regard to your first paragraph headed "The Annual Requirements", and then the second one, "Peak Day Requirements", dividing 365 into your total annual requirements would give, if I understand it correctly, an average day in excess of your peak day, I think, for the first three or four years. Can you explain that to me?

A Yes, I believe that can best be explained by first referring to Table 3 which accumulates the figures shown in the first column of Table 2. You will see that the allowances for the peak day requirements have no entry in the interruptible column. That is the first one from the right. In the so-called peak day requirements I have made no allowances for the sales to the interruptible since I am treating them as not being a contractual requirement. Now, the amount of sales which will be made will be whatever capacity is available over and above the firm requirements, which might reach the totals on a very cold day shown in the right hand column of Table 2.

Q In other words, in considering your peak day you just did not use the interruptible at all?

A That is right. That is a complete explanation of it.

Q Probably annual requirements is not exactly what I have figured it. I was taking that as the annual take and dividing by 365 and arriving at an average day. That is not correct?

A No, that is not right. With these interruptible loads

as estimated in annual requirements, the pipeline capacity can be used some days completely and some days not completely.

Q I take it it is possibly further explained at the bottom of page 9 of your text, is it, although I could not quite follow that, either?

A That paragraph was directed to the same subject, yes, sir.

Q And when you say "annual requirements" in Table 2, that does not mean you are going to sell that amount of gas in those years, is that correct?

A Yes, I believe it means that, with only one qualification, that the pipeline is built and a connection is made to the areas which are contemplated to serve.

Q That is all.

<u>RE-EXAMINATION BY MR. PORTER</u>:

Q Mr. Shattuck, I think I may have to back up a piece in order to be sure that what you have been talking about to Mr. Smith is clear. You were reading from a table in your notes to Mr. Smith, a table of the prices paid by the industrials survey?

A Yes, sir.

Q How many customers are in that table?

A Approximately 2,000.

Q Approximately 2,000. And their aggregate requirements are -- ?

A The equivalent of about 130 billion cubic feet of gas.

Q Their aggregate requirements are about 130 billion feet

of gas. Now, I think you told Mr. Smith that on the basis of even or better gas would replace coal?

A Yes, sir.

Q And on that basis, taking 40 cents as your average, what percentage of that coal will you replace?

A Coal and oil.

Q Coal and oil, yes.

A About 75 per cent.

Q About 75 per cent. Now, you told my friend, Mr. Martland, yesterday that your range to industrials was 40 to 65 cents?

A Yes, sir.

Q Somewhere in there. And what is your range to distributors?

A Oh, it would be somewhere in the range of 50 to 60 cents depending on the load factor.

Q Depending on the load factor. Now, assuming that within those ranges you can sell the capacity of this line, have you calculated the earning power?

A No, sir. I have calculated the earning power for the pipeline but I did not use those rates.

Q What rates did you use?

A Some that were at or below the lower limit of those ranges.

Q Well, can you tell me what those are? In other words, you dropped down below these figures for the purposes of calculation?

A That is right. That was the piece of paper I was looking for while Mr. Smith was examining me, and I have not found it. May I have a minute, please.

MR. MILVAIN: While Mr. Shattuck is looking, I wonder if I might intervene just a moment. Unfortunately,

J. G. Shattuck,
Re-Ex. by Mr. Porter.

I am in the middle of a case in the Court of Appeal which I thought I would finish yesterday, and I must be there to commence at half past ten. I wonder if you, Mr. Chairman, would permit my friend, Mr. McGrath, who has been here with me, to question any witness that he may see fit to question during my absence. I think I will be back by twelve o'clock.

THE CHAIRMAN: All right, Mr. Milvain.

MR. MILVAIN: Thank you very much, sir.

Q MR. PORTER: Did you find the paper?

A THE WITNESS: Yes, I have it, sir. For the purpose of estimating revenue?

Q Yes, for the purpose of estimating revenue.

A To determine the earning power of the pipeline I have used in the first year for the sales to distributors an average of 49½ cents per Mcf., in the successive years 51 cents even, 51½, 53 even, and 53½. For the purpose of estimating the sales to the industrials as a group I have used an average of approximately 37 cents in each year.

Q Now, do you think you are going to have to sell gas as cheap as that?

A No, sir.

Q Well, then, why did you use that figure?

A Just to give a sort of a conservative factor of safety, which is an inherent part of estimates at this stage.

Q Assuming you could sell at those lower figures that you have just given us, what happens to your pipeline structure financially?

A We can make earnings in the range of 4-4/10 per cent to

5-3/10 per cent in the first year, in the third year a range from 6-1/10 to 6-4/10 represents the probable earnings, the fifth year between 7.1 and 7.3 per cent.

Q That is on the basis that you market the quantities that your earlier exhibit shows?

A That is right.

Q In the first, third and fifth years?

A I think I should explain that those ranges exist because capital structure has not been determined, rates have not been exactly set.

Q No, but on the assumption that you sell that these prices, which are lower than you think they need be?

A That is right.

Q And that you get the throughput that your first exhibit shows in the first, third and fifth years?

A Yes, sir.

Q You say you can earn on the rate base that will exist those figures that you have just given?

A That is right, sir.

Q Now, why do you say you will not have to sell as low as these prices you have just given?

A Because in making the survey we have seen evidence that the coal and oil sales at prices higher than those to an extent that we will be able to collect a higher price for it.

Q This gas, I take it, is not going to displace all other fuels in its market?

A No, sir.

Q It is only going to displace part of the fuel in those

markets?

A That is right.

Q And is it your opinion that there is enough fuel being sold in this market at price levels which will be displaced above those low figures?

A We have found enough in our surveys and we could find more if we looked for them.

Q Now, we have some evidence from Mr. Warterfield and he testified, as I understood him, that even if the contemplated plans which would remove the taxation element fail that there are tolerances enough in his $253 million to build the line for that sum, but let us assume that he is wrong and the line cost more than $253 million and you therefore have a rate base in excess of that, can you tell me what the result will be on earnings? How far can we go over Mr. Warterfield's estimates and still be practical on the basis of these low price sales figures?

A I do not think I can tell you how far we can go, Mr. Porter. I have a test which indicates it can go a considerable distance.

Q Well, you might tell us that.

A I have taken a total construction cost, including the overhead, of $271,500,000.00 as contrasted to Mr. Warterfield's $253,000,000.00.

Q Yes?

A And the earnings from such a system at the low point, that is, comparable to the low figures of the ranges I have just mentioned, would be in the first year 4.2, the third year 5.7, the fifth year 6.6 per cent return.

Q Selling at the low figures which you say are lower than, in your opinion, you will need to settle for?

A That is right, using the identical revenue.

Q Now, if you get more for your gas you will have a better earning or could support a larger rate base?

A Yes, one or the other, or both in moderation.

Q Now, I want to say something to you about Winnipeg. Is your line from here to Winnipeg designed to have more capacity than from Winnipeg east?

A Yes, that is right.

Q That is right. So that you can supply Winnipeg with this line without having any dead line east of it?

A That is right.

(Go to page 2503)

Q I do not know that I am making myself clear. If your capacity east of Winnipeg were identical with the capacity west of Winnipeg, you would be short of filling the line east by the amount that you dropped off at Winnipeg?

A That is right. My hesitation with regard to it was that I did not personally do the work. Mr. Warterfield did it.

Q But you are familiar with it?

A Yes, I am.

Q And the capacity as designed west of Winnipeg is larger than the capacity east of Winnipeg?

A Yes, sir.

Q So that in that way you would take care of the Winnipeg load?

A That is right.

Q And still maintain capacity east?

A Yes, that is right.

Q Now, let us assume that the Winnipeg load has been under-estimated, or there is an error in it, how do you take care of that from the line capacity standpoint?

A Well, in two ways that is taken care of. In the first place the portion of such error in estimating, that can be determined before the final construction of the line is made, can be adjusted for by different power and different compressor station spacing.

Q I see.

A The portion that is required after the load comes on has to be compensated for by power up to the full capacity, the designed capacity which Mr. Warterfield stated is 515, leaving Princess station, or by additional loop lines.

Of course, that capacity is far beyond any capacity we have contemplated in this study in the first five years.

Q Well, with regard to the general impression that I hear in discussions, that this line will be better off without Winnipeg and Regina, what do you say about that?

A Oh, the more gas it sells the better the project.

Q Anywhere?

A Yes, that is right.

Q There is no loss to the eastern end of the line by reason of the fact that you take off something between here and Winnipeg?

A No, sir.

MR.PORTER. Now, Mr.Chairman, I would like to say at this stage that Mr. Shattuck has all of his working papers and the names of all of these people that have been surveyed, and all of the material out of which these exhibits were drawn, and he is prepared to submit them for detailed examination to a person of the Board's choice, and, following that examination, to return to the stand and put such evidence in a public record as in the Board's opinion is necessary for their purposes and not prejudicial to the future activities of this organization with its marketing project. Mr. Shattuck will stay here to do that, or come back to do it.

MR. C. E. SMITH: May I make a comment on that suggestion, Mr. Chairman?

THE CHAIRMAN: Yes.

MR. C. E. SMITH: Well, that may be a serious and generous offer on Mr.Porter's part, having regard to what is in his mind, but I do not think the Board should be

put in that position, or any person designated by it, and I say that with all respect to Mr. Porter's suggestion. We are getting near the end of the Hearing, I hope, and it might be an awfully bad precedent to establish at this time to do anything like that. I think it should depend on what the Board decides at a public Hearing as to what they think the witnesses should answer. I think, Mr. Chairman, that you realize what that might mean to the Board. I am thinking particularly of establishing any such a precedent.

MR.PORTER: I merely urge it because it is an inquiry, and the Board is entitled to inform itself from all sources. However, it is just an offer.

THE CHAIRMAN: We will think that over, Mr. Porter.

MR.NOLAN: Mr. Chairman, may I ask Mr.Shattuck a question?

THE CHAIRMAN: Yes.

MR.NOLAN: It is arising out of an answer that Mr.Shattuck gave to Mr. Porter.

....

CROSS-EXAMINATION BY MR. NOLAN:

Q Did I understand you to say, Mr.Shattuck, that with gas at 40 cents you could displace 75% of the coal and oil?

A I hope I said to Mr. Porter that at 40 cents we could replace, on a break-even basis, 75% of the fuel consumption within the plants which we surveyed.

Q All right. And with gas at 50 cents, how much of this fuel consumption can you replace?

A On the same break-even basis, I take it?

Q Yes?

A About 24%.

Q Thank you, Mr.Shattuck.

MR.MARTLAND: May I just ask one question, Mr. Chairman?

THE CHAIRMAN: Yes.

....

CROSS-EXAMINATION BY MR. MARTLAND:

Q When you referred to an estimated rate base of $271,000,000.00, Mr.Shattuck, all you have done there is to add to Mr. Warterfield's figure of $253,000,000.00 the $18,000,000.00 of duties and sales tax, which probably should be added on, isn't that correct?

A Your question has a lot of inferences. Let us take it factually. I took the $253,000,000.00 and I added an amount of $18,500,000.00 to his construction costs.

Q Where did you get the $18,500,000.00?

A It was inspired by the fact that some people might think that it would cost that extra amount of money, and I thought I should be able to answer that particular question.

Q But why the $18,500,000.00, Mr. Shattuck? Why that figure?

A Well, I did not use the photostat that was put into evidence here. I made my own estimate separately, and it did not come out quite the same.

Q Did it have any relationship to the matters that are covered in that photostat?

A It was a duplication of those matters.

Q Thank you.

MR. McDONALD: Might I ask one question, Mr. Chairman?

THE CHAIRMAN: Yes.

....

CROSS-EXAMINATION BY MR. McDONALD:

Q Will you look at Exhibit 88, Mr. Shattuck, and that is the exhibit entitled "Industrial Fuel Prices at Winnipeg"?

A Yes.

Q The Alberta Bituminous, the second item, the second heading, and there is International Stoker?

A Yes.

Q Is that the product of the International Coal & Coke Company, in the Crow's Nest Pass area, do you know?

A I do not believe I know, Mr. McDonald. I might be able to search my no es and get that. I do not remember the name.

Q It is not important, Mr. Shattuck, but we have had evidence here by Dr. Sutherland, from the Consolidated Mining & Smelting Company, and his evidence was, as I recollect it, that the value at the burner tip of coal in the Trail smelter would be approximately 46 cents per Mcf. That would be somewhat comparable to your industrial value at 46 cents at Winnipeg?

A Or the 45 of mine run.

Q Of mine run?

A You will remember, sir, that these Winnipeg prices have a little more freight, don't they, than what it would be to Trail?

Q I was coming to that. The per million BTU that you have here as a comparison, is the direct BTU comparison, there has been no efficiency taken into account?

A No, no efficiency has been taken into account, that is

right, sir.

Q And then the use of the 25 cents allowance, have you used that 25 cents allowance in this Winnipeg calculation?

A No, sir.

Q For the handling of coal?

A No, sir. I do not use the 25 cents allowance in any of these quotation exhibits.

Q Now, as I recall Dr. Sutherland's evidence also, the value of coal at Trail was $10.00 a ton, and then he added the costs with regard to the BTUs and bringing it to the burner tip and arrived at 46 cents. So the difference between the $10.00 and the $12.00 you have here might well be the difference between the actual delivery cost of the coal and not the difference in efficiency?

A I think it is probably a difference in the delivery costs only.

Q Only?

A Yes. If I understand your comment, the $10.00 was the delivery price, but its conversion price to the million BTU took in a higher handling cost at the plant than I have assumed here.

Q And as to the efficiency, that is on the basis of 80%?

A Well, that would answer that difference.

Q Thanks very much.

....

EXAMINATION BY THE CHAIRMAN:

Q Mr. Shattuck, I believe you told Mr. Porter that if you took for the first year's operation an industrial price of 37 cents, and a price of 49½ cents to the distributors,

that the line would still show an operating profit?

A That is right.

Q Now, if my slide rule expert here is correct, the average price of that gas, the sale price would be 39½ cents. Now, your transportation cost is about 38-2/3 in the fifth year, and taking it in the first year, taking your field price for gas, I am just wondering if that is correct?

MR. PORTER: Is that average or weighted average?

THE CHAIRMAN: That is the average according to Table 3.

. PORTER: You have got to have the weighted average.

THE CHAIRMAN: It is the weighted average. I mean, based on Table 3?

A I think I should first say that the quantities at which the price, at each price, are the quantities that are not available from the exhibit, because some of the interruptible industrial sales will be handled by the distributors and some by the pipe line directly, where it is outside of the franchise or service area. Which year was it, please, that you said the computation was made?

Q Taking it on the first year?

A First year?

Q And taking the industrial at 37 cents and the price to distributors at 49½cents, the weighted average is 39½ cents?

A I do not know just where the error is, but my total would come out at 42½, sir.

Q We have a figure of 43.2 for the fifth year?

A I think we should take the quantities to solve that.

....

EXAMINATION BY DR. GOVIER:

Q Well, Mr.Shattuck, you would compute that weighted average price by taking the residential sales plus the commercial sales at the one price, 49½ cents, and computing the revenue to be derived, and then adding to that the revenue of the industrial sales, both firm and interruptible, at the industrial price of 37 cents?

A No, sir, I would not. The reason for that is that the industrial estimate covers all the industries, whether within a distributor's territory or not. I have calculated from my examination of the regional breakdown, that is the geographical breakdown of the interruptible sales, which sales would be made within a franchise area, and that, of course, is certainly an assumption on my part. We have not that total exactly, but those quantities which I have used here are roughly half and half in a year. For instance, of the 89.1 billion cubic feet in the first year, 43.8 to distributors, and 45.3 directly to industrials.

Q So that when you gave us a price of 37 cents to industrials, that really meant to those industrials served directly and would exclude any industrials sold through distributors, is that so?

A That is right.

Q That is correct?

A That is correct.

Q Well, Mr.Shattuck, does your estimate given in Table 3 of the sales to industrials include those industrials which

J. G. Shattuck,
Exam. by Dr. Govier

would be sold directly from your line and also small industrials that would normally be sold through a distributor?

A Is that question directed to the whole Table or merely to a column, sir?

Q It is directed to the second column labelled "Industrial Firm", I mean to the two columns labelled "Industrial Firm" and,"Industrial Interruptible".

A It includes both sales directly and indirectly in those two columns.

Q Whereas your price of 37 cents was referring only to your direct industrial sales?

A That is right, sir.

Q Sell, that would account for the difference in the computations?

A Yes. If it would be of assistance, I have those other averages for the other years.

Q I think it might be well if we have them. It could help. Could you give us the figures, Mr. Shattuck?

A The first was 42½ cents, the second 44 cents, the third 45 cents, the fourth 46 cents, and the fifth 47½ cents.

Q Am I right in assuming that they have been calculated approximately on the basis of a 50-50 split in the industrial load between the distributor and the direct sales?

A No, sir. That starts out with a little less than half to the distributors and gets to the point where it is better than half, say, 65%, in this particular breakdown.

Q That is just your best estimate? There is nothing firm about it?

A I have only a geographical location of the plants to base

it on, and just the most superficial conversation with the distributors in some cases.

Q Now, Mr. Shattuck, there is one more thing I would like to see clarified. Let us look at the first figure you gave us of 42½ cents. Am I right in interpreting your previous remarks that with that average Mcf. revenue you have earnings of - I jotted that down but I have lost my paper - 4.3% to 5.3%.

A I would like to refer back to my notes too, if you please.

Q Yes?

A 4.4 to 5.3, yes, sir.

Q And that means that the cost of the gas in the field, plus the cost of transmission, may be met out of the 42½ fents, and leave earnings of 4.4 to 5.3% on the total capital at that time, is that correct?

A That is right, sir.

Q THE CHAIRMAN: Mr.Shattuck, can you give us the carrying charges for the first year, the average carrying charge?

A For the first year?

Q Yes?

A This calculation has been based upon the same assumptions that Mr.Ransom estimates were based upon, and that was an interest charge of, as I remember it, $7,600,000.00. I would like to check that, if you please.

Q Yes?

A That is right.

MR.PORTER: What is the carrying charge?

A $7,600,000.00.

Q THE CHAIRMAN: I mean the transportation charge per

Mcf.?

A Oh, per Mcf.?

Q Yes?

A I beg your pardon, sir. I have not calculated it. I am sorry to say that I am a little confused by your question. I believe it is 42½ cents because the earnings are lower.

Q Well, the price would be comparable to the 38.62 cents shown as the average cost on page 8 of the estimated transportation costs, submission No. 56?

A May I ask you if you mean the first year duplicate of Mr.Ransom's Table including the allowance for return and tax, substantially the same as his?

Q Yes?

A I have not computed it. I could do it in three or four minutes, maybe five minutes.

Q You could possibly supply that to us later on, Mr. Shattuck.

A Yes, I would be glad to do that, sir.

(Go to page 2514)

Q Have you got the 50-year figure that you used?

A No, I did not figure that. I have used the earnings that appeared to be available as representing the earnings rather than a set amount of return as was shown in transportation costs exhibit.

Q Did you calculate what additional costs per Mcf there would be, adding the 18 million to the total cost of the project?

A No, I did not, sir.

EXAMINATION BY DR. GOVIER:

Q Mr. Shattuck, in answer to Mr. Nolan you stated that the price to the industrial consumer would be varied depending on the value of service. Did you mean regardless of whether that industrial consumer was serviced directly or indirectly through a distributor?

A Mr. Nolan of course asked the question qualified to the direct sale. If I were the advisor to the distributor on rates, I would advise him to do that also.

Q And would you tell me whether the value of service, as you use the expression, would include any other factors, other than load factor and continuity of service?

A Yes, they would. Size, for example, would be an important factor.

Q Amount of sales?

A Yes.

Q Size of load?

A Yes, the size of the load.

Q Would there be other factors?

A Yes, there would be. There would be the adaptability to the particular customer's process, which may result in the

distributor forming a set of class rates, which would collect a higher cost based upon the need of that customer to have natural gas as contrasted to other fuels. Some people refer to that as a "form value".

Q In other words, a consumer using gas for metallurgical processing might be a different rate than for boiler fuel?

A Yes.

Q Even though their load factor was the same and they were on an interruptible basis?

A That is right.

Q Thank you.

Q THE CHAIRMAN: Mr. Shattuck, Mr. Ranson, I think, said you might be able to give us your figure of outstanding bonds?

A I believe I can. This is the figure which is related to an initial assumed bond issue of $190,000,000.00, and at the end of the fifth year, $166,000,000.00.

Q Thanks very much. Mr. Shattuck, just one more question. What field price did you assume in making those calculations of earnings?

A I used 10 cents per Mcf.

Q Thanks, Mr. Shattuck.

THE CHAIRMAN: That is all now, Mr. Porter?

MR. PORTER: That is all of Mr. Shattuck's evidence. My only other witness I have is Mr. Trostel and he will be on later.

MR. S. B. SMITH: We are ready to proceed, Mr. Chairman. I will call first Mr. Robert R. Herring.

MR. PORTER: In the interval, Mr. Chairman, I

would like to ask anyone, a party to the proceedings, or say to anyone a party to the proceedings, that the material from which Mr. Trostel will give evidence has been distributed. I am sure it is of the nature that some of the parties will want to study it. I just want to be sure I have not left someone out who will come along next week.

MR. S. B. SMITH: You left me out.

MR. PORTER: Well, I did that on purpose.

MR. C. E. SMITH: Is Mr. Harries here?

MR. PORTER: No, he is not. We can slip him in at any time. He is not here but he should only be a few minutes saying "This is what I did."

MR. C. E. SMITH: I thought he might be sitting here somewhere.

....

ROBERT R. HERRING, recalled, already sworn, examined by Mr. S. B. Smith, testified as follows:-

Q Mr. Herring has been here several times before and I assume the Board is aware of who he is and it won't be necessary to qualify him?

THE CHAIRMAN: That is right.

MR. S. B. SMITH: I wish to ask him first to proceed with his presentation, which has been prepared in writing and was distributed some time ago and of which I believe the Board has copies, and that will be exhibit number . . .

THE CHAIRMAN: . . . 94.

BRIEF "THE RECIPROCAL EXCHANGE OF NATURAL GAS BETWEEN CANADA AND THE UNTIED STATES" PUT IN AND MARKED EXHIBIT 94.

Q MR. S. B. SMITH: Will you proceed, Mr. Herring?

A INTRODUCTION

Prairie Pipe Lines, Ltd., has an application pending before the Petroleum and Natural Gas Conservation Board of the Province of Alberta for permission to remove or cause to be removed natural gas from the Province for use or consumption in the Northwestern States of the United States and the lower Mainland of British Columbia. In this application we have asked for any volume in excess of 100,000 MCF per day and we have outlined to this Board three plans for the utilization of these various volumes. In seeking the approval of any one of these three plans, Prairie Pipe Lines, Ltd., has considered the expressed desire of the Alberta Government with respect to the future requirements of the Province, the service of other Canadian cities as second priority and the Pacific Northwest service as a logical one but necessarily of lower priority.

We have based these presentations upon the announcements of the Board and our analysis of the Alberta reserves and requirements. Consistent with this policy we have recently presented evidence that would provide for the export of 200,000 MCF of gas from Southern Alberta to the Pacific Northwest in a manner which would meet the future requirements of the C.W.N.G. system on a low cost basis leaving the local consumer free of price increase, while at the same time we have proposed to exchange United States natural gas for this export volume by serving the requirements of the major centres in Eastern Canada. Recent natural gas reserve testimony before this Board has established sufficient reserves for such a program. Accordingly, Prairie Pipe Lines, Ltd., has

executed a letter of agreement with the Panhandle Eastern Pipe Line Corporation in which they agree to deliver 225,000 to 250,000 MCF per day to Prairie at Windsor, Ontario. We submit this letter in evidence. We further submit a letter agreement between Prairie and the Humble Oil & Refining Company for 150,000 MCF per day from their huge Gulf Coast reserves for transmission to the eastern Canadian market. It is our plan to serve this Eastern Canadian market by a subsidiary company formed for this purpose.

RECIPROCAL EXCHANGE

The plan of reciprocal exchange as mentioned above is shown on the attached map which illustrates the Prairie-Pacific Northwest Pipeline Corporation service to the Pacific Northwest and the Panhandle-Prairie service to Eastern Canada.

Prairie has submitted as evidence in support of this application the following agreements:

(1) A contract with Pacific Northwest Pipeline Corporation for the delivery of 200,000 MCF per day at a point on the international border near Trail, B.C.

That was placed in as an exhibit last year.

(2) A letter of agreement with the Panhandle Eastern Pipeline Corp. for the delivery of 225,000 MCF to 250,000 MCF per day to Prairie at the international border near Windsor, Ontario.

(3) A letter of option with the Humble Oil & Refining Company for the purchase and transmission of 150,000 MCF per day of their Gulf Coast reserves to Eastern Canadian Markets.

Q I think perhaps, Mr. Chairman, we might interrupt the reading of this presentation to file the letter of agreement with the Panhandle Eastern Pipeline Corporation, and I propose to have Mr. Herring read that letter at this stage. I think that has been delivered to everyone and the Board has copies of it.

LETTER PANHANDLE EASTERN PIPE-LINE COMPANY TO THE PACIFIC NORTHWEST PIPELINE COMPANY, NOVEMBER 30, 1951, MARKED EXHIBIT 95.

A PANHANDLE EASTERN PIPE LINE COMPANY
817 Cafritz Building
WASHINGTON 6, D.C.

November 30, 1951

Pacific Northwest Pipe Line Company,
Houston, Texas

Attention: Mr. Ray Fish

Gentlemen:

You have advised us that your Company is actively engaged in efforts to deliver 250,000 cubic feet of natural gas daily at the United States and Canadian border near Windsor, Ontario, and that this delivery should be scheduled for the Fall of 1953.

We further understand that one of the primary purposes of supplying this gas to Eastern Canada is to make available an equal or larger volume of gas from Western Canada to the Pacific Northwest area of the United States.

This is to advise you that the Panhandle Eastern Pipe Line Company and the Trunkline Gas Company are very much interested in supplying this volume of gas. Both pipe lines can increase their capacity approximately 125,000,000 cubic feet each with a relatively small use of steel and

compressors per unit of gas transported.

This proposal is made subject to the following conditions:

(a) That an acceptable treaty be worked out between the United States and the Canadian Government permitting such transportation and sale of gas for a period not less than twenty years.

(b) That FPC approval and certificates be obtained authorizing such sale of gas to your Company in line with the treaty mentioned above.

(c) That proper United States governmental authority be obtained for the acquisition of pipe, compressors, and auxiliary equipment necessary to complete the project.

(d) That Panhandle Eastern Pipe Line Company and Trunkline Gas Company have sufficient time to rearrange their gas supply and obtain commitments for financing.

(e) That the pipe line company in Canada receiving the gas make satisfactory arrangements with the Union Gas Company Ltd. to supply their requirements.

(f) That a definitive contract be executed between Panhandle Eastern Pipe Line Company, Trunkline Gas Company and the new gas pipe line company to be formed in Eastern Canada, as soon as gas and transportation costs can be precisely calculated.

(g) That the conditions hereinabove provided are completed and consummated not later than June 30, 1952.

Very truly yours,

"E. Buddrus"

Q Then you refer next to the letter of option with the Humble Oil and Refining Company for the purchase and transmission of 150,000 MCF per day of their Gulf Coast Reserves to Eastern Canadian markets?

A That is correct.

Q That also has been distributed, sir. That will be exhibit number 96.

LETTER HUMBLE OIL & REFINING COMPANY TO PRAIRIE PIPE LINES LIMITED, DATED NOVEMBER 13, 1951, MARKED EXHIBIT 96.

Q Mr. Herring, would you read, then, exhibit 96?

A I might explain before reading this that this contract has been made available to the Panhandle Company under the terms of this contract which we have just read for their use.

HUMBLE OIL & REFINING COMPANY
Post Office Box 2180
HOUSTON 1, TEXAS.

November 13, 1951.

Prairie Pipe Lines, Limited
Edmonton, Province of Alberta
Canada

Gentlemen: Attention: Mr. Ray Fish, President

This will confirm the discussions which we have had with your representatives concerning a possible sale of natural gas to you by Humble Oil & Refining Company. This company now has gas reserves located in various fields in the southwest Texas area, and we are willing to sell gas to be produced by Humble from said fields to you in the approximate amounts hereinafter stated and on the terms and conditions set out below.

1. The term of the sale would be for a period of

twenty (20) years, beginning with the date of first delivery.

2. The maximum daily gas volume to be delivered would be one hundred fifty million (150,000,000) cubic feet per day at a pressure base of 14.65 p.s.i.a., and Prairie Pipe Lines, Ltd. would be obligated to take or pay for if not taken at least seventy-five per cent (75%) of such maximum. The quantities of gas taken by Prairie would be averaged over each contract year for the purpose of determining whether or not Prairie has met this minimum take obligation.

3. For all purposes of this agreement, the gas would be measured at a pressure base of 14.65 p.s.i.a., corrected for the applicable flowing temperatures and specific gravities as measured at the points of delivery, and the volumes will be corrected for deviations from the Ideal Gas Laws.

4. The gas deliveries would be made from several fields to be designated by Humble, and Humble would have the right to substitute, at its cost, gas from other fields located within reasonable proximity of the gas transmission line that will carry the gas as agent for Prairie.

5. The delivery points would be at central points located in the respective fields from which the gas will be produced.

6. The volumes to be delivered by Humble from the various fields required to make up the total delivery obligation would be determined by Humble, and production will be in accordance with good operating practice and so as not to cause waste.

7. Humble would guarantee that it has sufficient reserves in the fields to be designated, or others to be substituted therefor, to equal at least one hundred twenty-five per cent

(125%) of the maximum delivery to be made at the rate of . 150,000,000 cubic feet per day over the twenty-year period.

8. It is recognized that there may be other operators in some or all of the fields from which gas deliveries would be made who would desire, for purposes of effecting rateable withdrawals and protection of property rights and in order to serve the purposes of conservation and efficient operating practices, to make a certain portion of the total required deliveries under the same conditions that Humble would make deliveries. However, should other operators not elect to agree to make such deliveries, Humble would nevertheless be obligated to make full delivery as provided above.

9. The gas would be taken for your account and transported for export to Canada for you under arrangements to be made by you by an agent gas transmission pipe line to be later selected by you. Prairie would take title to and assume full liability and responsibility for the gas at the points of delivery designated in the fields as provided above.

10. Prairie would pay Humble for the gas delivered a price of fifteen cents ($.15) per thousand cubic feet for the first five-year period of the contract, sixteen cents ($.16) per thousand cubic feet for the second five-year period of the contract, seventeen cents ($.17) per thousand cubic feet for the third five-year period of the contract, and eighteen ($.18) for the fourth five-year period of the contract.

11. Should governmental regulations or orders prevent Humble from receiving or Prairie from paying the prices specified, Humble would have the right and opportunity to undertake to secure adjustment of the applicable price ceiling

so as to allow the agreement to be performed. In any such effort by Humble, Prairie would agree to assist and co-operate. Should Humble not elect to secure such adjustment, or should Humble be unsuccessful in doing so, the price for gas would be reduced to conform to the applicable price ceiling. At such time as the price ceiling is either removed or adjusted to allow the following to be done lawfully, the applicable price for gas thereafter delivered to you would be increased by an amount equal to the difference between the applicable contract price for gas theretofore delivered to you and the ceiling price at which such gas was delivered until such time as Humble would have received such increased amount for a volume of gas delivered to you after removal of the price ceiling equal to the volume of gas delivered to you at less than the applicable contract price.

12. Humble would pay all taxes levied against it as producer applicable on the date of the contract. Prairie would pay any existing or future gathering tax levied against the gas or would reimburse Humble therefor if paid by Humble. Prairie would pay or reimburse Humble for two-thirds (2/3) of all increased or new taxes levied after the date of the contract against the production, severance, sale or delivery of the gas.

This offer is non-assignable by Prairie and will remain open for a period of one hundred twenty (120) days from the date hereof and, unless accepted by you, will terminate upon the expiration of such period. If accepted by you by execution and return to us of the original hereof within said period, then we will proceed to prepare a formal

contract carrying out the provisions set out in this letter. Such contract, of course, would cover any additional appropriate provisions consistent with the above and with the spirit of our trade.

Very truly yours,

HUMBLE OIL & REFINING COMPANY

By "E. S. Reistle"
Director in Charge
Production Department.

....

In further support of this application Prairie Pipe Lines desire to submit as evidence a brief account of the two projects showing the great advantages of the over-all system to both Canada and the United States.

	Initial Market Estimate MCF/Day Peak Day	Cost of Project	Service Cost Per MCF	Steel Tonnage Required	Estimated Sales Price at 85% L.F. per MCF
Pacific Northwest line	200,000	$ 85,528,800	18.55¢	150,425	33/34¢
Eastern Canadian line	250,000	$ 53,801,000	9.99¢	103,500	43/44¢
Total	450,000	$139,329,800	-	253,925	-

Q Could I interrupt you there, Mr. Herring. With respect to the 9.99 cents service cost per Mcf, I think you made it quite clear but I decided to make it amply clear, that is the service cost per Mcf in respect of the Eastern Canadian line solely from Windsor forward?

A From Windsor to Montreal. The great advantages of these projects we have emphasized in later pages here, but I would

like to come back to this point and the map at the back at the completion of this submission.

CONCLUSIONS

Prairie Pipe Lines, Ltd., believes that the above proposal closely follows the expressed position of the Alberta Government in serving Canadian cities first. The proposal would serve more than four and one-half million people in Eastern Canada and more than one-half million in British Columbia for a total in Canada of over five million people in the initial service years. These consumers are now grouped into more than twenty-two operating gas utilities.

In the Pacific Northwest States the initial service would include nearly three million people in fourteen operating gas utilities. This entire service of natural gas at competitive prices would only require 250,000 tons of steel.

The Prairie Provinces of Saskatchewan and Manitoba are presently experiencing extensive exploratory operations for oil and gas. Early indications show great promise for future development. The limited natural gas service needed by the Cities of the Provinces should utilize these new discoveries if they are sufficient.

The Reciprocal exchange proposal meets the greatest fuel need in both the United States and Canada at the present time. The defence requirements of the Pacific Northwest have been well-established before this Board. The importance of Eastern Canadian industry is of like importance as shown by recent defence contracts let to Canadian manufacturers by the United States. This industry of Canada may well depend

upon a cheaper fuel such as natural gas to maintain its development in a peacetime market following this present emergency. Under the constant threat of world conditions the destinies of both Canada and the United States become even more dependent upon each other. The importance of even more such mutually beneficial arrangements should not be overlooked in our future planning.

In further support of this application Prairie has contacted each of the producers of natural gas in Alberta. Each of these companies has expressed a willingness to sell their natural gas. Some have executed a three-month option with one of the applicants. Prairie's position has been that until a surplus of gas has been declared and the location of the surplus reserves together with the restrictions necessary for the future assurance of Alberta's requirements have been made clear it is difficult to execute a firm and binding agreement. Most producers have shown this same attitude. It has been made clear that any export must be based upon the above considerations and they must be a part of any agreement between the pipe line company and the producer. The market companies have likewise testified as to their readiness to purchase natural gas when it is made available.

In final conclusion the reciprocal exchange proposed offers the greatest service of natural gas possible to Canadian Cities and to the United States with the least use of critical materials. The arrangement with Panhandle Eastern would utilize to the fullest the existing facilities and excess capacity this company now controls. We recommend that the Petroleum and Natural Gas Conservation Board of Alberta consider the

R. R. Herring,
Dir. Ex. by Mr. S. B. Smith.

full service to be rendered to both nations under this arrangement.

"R. R. Herring"

R. R. Herring, Vice-President,
PRAIRIE PIPE LINES, LTD.

....

Q Mr. Herring, have you anything to say with respect to the benefits and savings to the consumers in Quebec and Eastern Canada over the period of 20 years under the proposals which you have outlined?

A We have made an analysis of the market in Eastern Canada which we filed with this Board as exhibit number 16, I believe, last Fall. We have estimated that that market can be obtained on the basis of the price which we have outlined here. The saving of 6 cents per Mcf on the volume of gas which we present and ask for in this reciprocal exchange, that is, of approximately 80 billion cubic feet per year, at 6 cents, would be a saving to the consumers of Ontario and Quebec of approximately $5,000,000.00 a year for a twenty year period or approximately $100,000,000.00, in addition to the great advantages in the conservation of critical items, which is most important at the present time.

Q Such as steel?

A Correct. I would further like to comment on the map which appears in the rear of the brief which illustrates this reciprocal exchange arrangement. The Panhandle Eastern Pipe Line Company system is pictured from the Panhandle of Texas to Detroit and Windsor, and the new Trunkline system which originates in the Gulf Coast region is also pictured in the

R. R. Herring,
Dir. Ex. by Mr. S. B. Smith.

heavy black line. The proposed system of Prairie and Pacific Northwest for service to the Northwest States and lower British Columbia is shown, and the proposed transmission system in Eastern Canada is shown. I would like to make this comment about the appearance of this map, without any restrictions whatsoever or any regulations whatsoever, the marketing of the rich natural resources of the Province of Alberta would seek the largest market immediately possible to it, which would bring out the best price possible. Thinking in terms of pure economics, in addition to conserving very scarce items at this time, utilizing existing facilities and the exchange and placing of readily available reserves to the most logical geographical locations. This project would assure Alberta that every cubic foot of gas which was exported from the Province would be utilized in a Canadian city and is entirely consistent with the announcements of the Government as to their proposal for service to other Canadian areas after Alberta itself has been protected, and further considerations of export to follow that.

(Go to page 2530.)

We have, the Company, investigated every possibility over the past year of doing the type of presentation which we are submitting at this time. We feel that the project which we have arranged for here is by far the soundest and most economic program which can be developed for the sale and utilization of Alberta gas at this time.

MR. S.B. SMITH: I presume, sir, that this is the usual adjournment time?

THE CHAIRMAN: Yes. We will adjourn for a few minutes.

(Hearing resumed after short adjournment).

MR.S. B. SMITH: Mr. Chairman, I now turn to the subject of market studies, and I will ask Mr.Herring to proceed with his presentation "Market Survey for Natural Gas Sales, Pacific Northwest Area". This also was distributed some weeks ago, and I think it will be Exhibit 97.

THE CHAIRMAN: Exhibit 97.

MARKET SURVEY FOR NATURAL GAS SALES, PACIFIC NORTHWEST AREA, by Pacific Northwest Pipeline,MARKED EXHIBIT 97.

MR. S. B. SMITH: Will you proceed,Mr. Herring?

A This exhibit is presented on behalf of Pacific Northwest Pipeline Corporation of Houston, Texas, and Prairie Pipe Lines Ltd., of Edmonton, Alberta.

R. R. Herring,
Dir. Ex. by Mr. S. B. Smith

INTRODUCTION

The purpose of this exhibit is to establish that it would be in the public interest to provide for the supply of natural gas to the Northwestern States of the United States and British Columbia in Canada, and that there is a demand of sufficient volume to economically support such a service.

In compliance with requirements of the provisions under Section 7-C of the Natural Gas Act of the United States, as amended, this exhibit includes:

1. An analysis of the proposed pipeline operation including a summary of the estimated sales to the market areas;

2. The population of the market areas proposed to be served, shown by two classifications, namely, in cities and towns now served by a gas utility and in cities and towns not presently served by a gas utility. This section further includes a complete listing of existing utilities with a description of the present service which they render;

3. The estimated demand for natural gas by cities and towns in each market area, both collectively and individually, for each of the first 5 years of pipeline operation. This demand forecast is shown by customer classification for each of these respective years;

4. The estimated demand for natural gas by market area divisions for the fifth and tenth years of

operation on a theoretical basis of dwellings available for domestic service and percentage served:

5. A detailed presentation of the direct industrial sales proposed from this pipe line system, the volume required for customers for the first 5 years of pipeline operation, and a brief analysis of the industrial fuel situation in the Pacific Northwest States and British Columbia showing the importance of these industries with respect to our national defence program;

6. The conclusions to be drawn from the facts presented and the establishment of the Public Convenience and Necessity of this project.

The estimate for the first five-year period has been expanded at the request of the Board, following their direction for the present session, and the exhibit now includes that analysis for each of the five-year periods throughout the total years of service, as well as these items which I have listed.

In addition, this Market Report was made up to cover a possible construction of this pipe line to feed any one of the three projects which we have outlined before this Board. The estimate of sales which is presented in this report to the Board is on the basis of the submission which we have recently made in requesting 200 million cubic feet of gas per day, and we have made the sales to the Pacific Northwest

market on that basis.

The first five years are essentially the market estimates made by the market companies themselves before this Board last Fall, with the exception of Spokane. The Spokane request has been increased from the approximately 3½ million cubic feet per day request to approximately 17 million cubic feet per day request. That is the later information on the greater expansion program on the part of that utility than was forecast last Fall.

During the first five years, without peak shaving, estimating the first year of natural gas service in 1954, the first full year of service, we estimate total sales would be 47 billion, 364 million in the first year of service, 59 billion, 862 million cubic feet in1955, 71 billion 605 million cubic feet in 1956, 79 billion, 895 million in 1957, and 87 billion 392 million cubic feet in 1958.

The peak day sales range from 163 million cubic feet per day, during the first year of service, to 320 million cubic feet per day, as peak day sales, in the fifth year of service, fifth winter of service.

The next page shows some peak shaving and reflects a slightly smaller volume from that shown on the previous page. Without going into those in detail, the yearly pipe line load factor, on the basis which we will show, would be, in the first year of service, 79.1%, in the second year of service, 79.8%, in the third year of service, 78.5%, in the fourth year of service, 78.2%, and in the fifth year of service, 77.5%.

Now, in this same section of the Report, back about four more pages following page 5, there is an illustration of why the pipe line will maintain that operating load factor, and that the utilities themselves expect to maintain no more than 70% operating load factor. The reason for that is the 52 million cubic feet direct industrial sale from the pipe line per day. On that basis your 70% operating load factor of the utilities is applied to the balance of the pipe line instead of to the whole, estimating that the firm industrial would be practically on a full 100% operating load factor. We acknowledge it will be slightly less than 100% load factor, but for illustrative purposes we have put it on that basis. It illustrates why we feel that we will operate this pipe line at approximately 80% load factor, and, possibly, by the use of interruptible customers direct from the pipe line in excess of that volume. This chart illustrates the amount of interruptible sales that will be necessary to fill the summer valley created by your heating load in the winter time.

The map which illustrates the markets to be served by the all-Canadian line has been inserted as the second map following page 3 - page number 4, I am sorry. And it gives each of the market areas to be served and shown in the estimates in the following pages. It is this cross-hatched market in this particular exhibit. All of the others shown on this as market areas are not contemplated to be served in the initial 5-year program, but for the purposes of estimating on through the 20-year period, and for the purposes of the theoretical estimation

of the domestic and commercial consumption, we have estimated these future possible markets as a possible expansion for the pipe line.

Just as a comment, the map following the graph which was just discussed, is a degree-day deficiency map of the United States, and shows the very great variation of temperature zones through which this pipe line system will run, and which will serve those areas, and illustrates the very great deviation factor which you will experience on such pipe line operation. There is no comparable area in the United States now served by natural gas to this particular situation, and we felt that it was worth while to illustrate the deviation that may well take place with respect to peak-day service by the variation in this degree-day deficiency section.

Q DR. GOVIER: Are those based on 65°?

A Yes, sir. The further map - I would like to delay that a moment. We show our competitive fuel analysis of the Pacific Northwest on page 8 and page 9. I think that speaks for itself.

Under the population section, I would like to refer to the page that follows page 13, which amply demonstrates or illustrates, I feel, the population to be served by such natural gas transmission system with respect to the density along the route.

The following section is a detailed analysis, with maps, of the present-day service of the existing natural gas utilities in the Pacific Northwest and the lower mainland of British Columbia.

R. R. Herring,
Dir. Ex. by Mr. S. B. Smith

The bases of estimating the sales for resale estimates are illustrated on page 51, and the following page, which has been inserted, and the peak-day requirements for the first 5, 10, 15 and 20 years are shown as the Board requested. To give those very briefly, the peak-day requirement in the first year of operation is 161,787,000 cubic feet per day. In the fifth year of operation, and in some copies there is an error in the total, it is 320,880,000 cubic feet per day. There is a typographical error made there of 420,880,000 cubic feet per day. That should be 320,880,000 cubic feet per day.

Q MR. MAHAFFY: What page is that?

A That is for the fifth year of sales, the peak-day requirements.

MR. C. E. SMITH: It is all right in my copy.

A I corrected most of them.

Q What page is that?

A We did not number these pages of the new inserts, which were made after the Board made this new request. It is the fifth year estimate of sales in the Pacific Northwest market.

Q That would be after page 51?

A Yes, immediately following.

Q Yes.

A In the tenth year we estimate 548,175,000 cubic feet per day peak requirement; in the fifteenth year we estimate 697,845,000 cubic feet per day peak requirements; and in the 20th year we estimate 828,025,000 cubic feet per day peak-day requirements. We estimate that the load factor

in all of those years will be in excess of 70% and, in our opinion, approximately 80%.

Now, the next section deals purely with domestic consumers and is based primarily on the experience which has been obtained throughout the United States with the rapid expansion of natural gas service over the past few years. The basis of estimating is listed on page 53.

And then we have taken each of the market areas which were illustrated on those previous maps, and have arrived at our 5 and 10-year requirements, based upon this very experience and not upon any estimate made by the local utilities. We do that purely for study purposes, and to show what we actually feel that this market can accomplish if the expansion program and the financing is comparable to that which has been experienced in the past 5 to 10 years in the natural gas industry.

On page 75 we list the direct industrial sales proposed from this pipe line system, and we have a brief discussion on industrial interruptible markets, on the industrial fuel oil situation on the West Coast, and a brief statement on these industries to be served. I might point out that our theory of industrial service was that this market area is based upon the belief that there can be very little direct industrial sales out on the Coastal section of the market. Accordingly, we have divided the industrial market between the West Coast service and the inland service, and we feel that we will have a very fine situation in that the great

majority of industrial sales on the Coast will be interruptible sales. There is sufficient interruptible market during the first four years of pipe line operations on the West Coast section to maintain a full 100% operating load factor, which, of course, is theoretical, but there is that market available, that is, a competitive market that is better than we have estimated, and that market should stay firm and should be larger.

I might read the conclusion which appears on page 78.

In establishing the Public Convenience and Necessity of this natural gas pipeline system, the benefits to be derived by the people of the Pacific Northwest and of the nation in general is the primary consideration. The previous sections of this exhibit amply show the requirements of the region for fuels. When this requirement is considered in the light of present fuel supply, reserves and sources, transportation, and costs, the public benefits become obvious, and have been well established and proven during the past ten years of natural gas transmission development.

In the case of the Pacific Northwest, however, there are still greater benefits to be considered. This region of the country is without parallel in its development of hydro-electric power, and yet, the general growth and development has far exceeded the new electric output. Today 45% of the output goes to the vital finished aluminum industry, which in 1949 produced 49% of our supply.

Natural gas would be a complementary addition to this fuel supply.

In the field of solid and liquid fuels, the Pacific Northwest has become primarily dependent on oil. Over recent years the rise in cost of labour and transportation has burdened the competitive position of local as well as imported coals. These factors, plus important strides in lumber and wood waste utilization has directed the bulk of the market to oil consumption.

Now, however, in the face of the critical world situation, the oil supply line by tanker and barge from Southern California becomes a slender thread upon which to hang the economy and resources of this vital region. The threat to this source has been increased during the past weeks by the possible loss of 15% of the world's oil production to the Western Allies by the trouble in Iran. The tremendous demand on United States oil by such a loss would probably bring a curtailment to supplies from California to the Pacific Northwest States.

The Public Convenience and Necessity supported by this project is considered to be of real importance to our over-all defence program.

MR. S.B. SMITH: Mr.Chairman, I believe we earlier filed a document consisting of a study of the markets for natural gas sales in Eastern Canada, that is from Windsor to Montreal, and that, according to my notes,was Exhibit 16, Mr.Chairman.

THE CHAIRMAN: At the original Hearing, Mr.Smith,

or this?

A At the Joint Hearing.

MR.S. B. SMITH: At the Joint Hearing.

A Last Fall.

MR. S. B. SMITH: A year ago.

A I might make this statement. That was a very brief exhibit which was compiled primarily from the information which we received from the operating gas utilities which I mentioned a moment ago in this exhibit, number 94. In addition, the direct industrial sales from the pipeline, we estimated those both as to competitive price and as to load, I mean, which were forecast from the pipe line, they were estimated both as to competitive price and as to load by those local utilities, and by a new gas utility company which has been organized in Eastern Canada, and they made those surveys themselves. Now, the information was gained by visiting the various industrial consumers which we planned to serve directly from the pipe line. On that basis 250 million a day was the estimate of our peak day demand in this exhibit, which was filed at the Joint Hearing.

I meant to deal with the competitive price analysis which was mentioned a moment ago. I might detail that a little further. We estimate that upon the price structure which we mentioned in this Exhibit number 94, that the commodity price to the utilities would be somewhere in the neighbourhood of 30 cents per Mcf., after interruptible sales in order to maintain the load factor, and the interruptible sales that you might want to make from the pipe line would be available to them in these

volumes at approximately 34 to 36 cents.

We estimate the direct firm industrial which we happen to serve, will be 43 to 44 cents per Mcf. Accordingly, our sales for resale to the utility on approximately an 85% load factor, is about 43 to 44 cents per Mcf. And there will be a 100% load factor, or approximating that, if the storage in Western Ontario is satisfactory, and can be utilized for the benefit of all of the utilities on this service line, and is a load factor well in excess of that which we have estimated here, and that is possible.

MR.S. B. SMITH: Well, sirs, Mr. Herring is available for cross-examination by my learned friends.

MR.NOLAN: I want to ask Mr.Herring just one or two things, if I may.

THE CHAIRMAN: Yes.

....

CROSS-EXAMINATIONBY MR. NOLAN:

Q Mr. Herring, am I wrong in saying that you and I had a discussion when you were giving evidence last about a contract of the El Paso Company?

A No, sir, I think you are correct.

Q What happened to that, Mr.Herring?

A We have that letter of agreement here. I believe I left it at the hotel this morning.

Q You have a letter?

A Yes, I have it here. However, I would like to state this about that letter: As testified previously to, the price with regard to the El Paso contract was in the neighbourhood

of 15 or 15½ cents. The economics of that has been very greatly affected by an increase in income tax and other items, steel has increased in price, and so forth. We have tried to work out the most satisfactory method of service under the plans that we have proposed to this Board. We had hoped to utilize the El Paso gas in building our pipe line to the Pacific Northwest. The economics of that, at that price, were not highly desirable. We, accordingly, have exeucted a release with regard to any liability or obligation on the part of either El Paso or ourselves. We are greatly pleased with the nature of this present submission to this Board. We think that it affords the very greatest possible service for Canada and the United States, and we have abandoned the El Paso project, but we will file that later, as you requested at the last session.

(Go to page 2543)

Q Well, now, Mr. Herring, I wish you would make it clear to me, if you will, please, you propose to obtain some gas from the Humble Oil Company?

A We have submitted evidence that that gas is available.

Q 150 million cubic feet per day over a period of 20 years?

A That is correct.

Q And who transports that gas?

A Well, I feel I made that clear a moment ago. The arrangement we have for delivery of gas in Eastern Canada has been made with the Panhandle Eastern Pipeline Company. We merely make this Humble gas available to Panhandle if they desire.

Q Well, Panhandle, while it is a pipeline company, has gas of its own?

A Yes, as represented in this letter.

Q And it in turn will transport its own gas to the point of delivery at Windsor?

A That is correct.

Q Now, will you tell me, please, in this Panhandle Eastern letter, which has been marked Exhibit 95, they say that their proposal to you, Mr. Herring, your organization, is that it is subject to the condition that an acceptable treaty be worked out between the United States and the Canadian Government permitting such transportation and the sale of gas for a period not less than 20 years. Have you done anything about getting a treaty worked out between the United States and Canada, Mr. Herring?

A Realizing this point was to be discussed again, Mr. Nolan, we have made arrangements for expert testimony to be avail-

able at this Hearing and I would like to defer any such reference to that testimony, but we have investigated that likelihood to our satisfaction and feel it is available to this arrangement.

Q Do you mean that the treaty is necessary or unnecessary?

A I will leave that to the expert testimony, sir.

Q Now, this gas that is being gathered in the Gulf area and from the Panhandle Company and which is being transported to Windsor is dealt with so far as the Humble Oil Company is concerned in paragraph 9 of Exhibit 96, and it says:

> "The gas would be taken for your account and transported for export to Canada for you under arrangements to be made by you by an agent gas transmission pipeline to be later selected by you. Prairie would take title to and assume full liability and responsibility for the gas at the points of delivery designated in the fields as provided above."

All I want to ask you, Mr. Herring, is whether that gas and all of it that is deliverable at Windsor, Ontario, is any of it dropped off en route in the United States before it gets to Windsor?

A No, sir.

Q And that is true of both the sources of supply, Humble and the Panhandle?

A I would not consider these two as sources of supply in that light. We have made arrangements which we submit in evidence herewith with Panhandle to deliver those volumes of gas at Windsor where they have already two 12-inch

lines across the river. We make available to them a contract which we negotiated earlier with Humble. Now, then, in dedicating this volume behind the reciprocal exchange arrangement there would be none called for in the United States. We have legal testimony and I refer to that expert testimony, which would be more reliable than anything I might say about it.

Q Well, thank you, Mr. Herring.

CROSS-EXAMINATION BY MR. MARTLAND:

Q I just have two questions, Mr. Herring. With regard to Exhibit 94, the project is for the provision of the Eastern Canada market by a reciprocal arrangement such as you have outlined?

A Yes.

Q And on the basis of this arrangement, how much Canadian gas would be delivered into the United States?

A On the basis of our request, the peak day requirement and the requested volume for export is 200 million cubic feet per day. The provision for re-delivery is on the basis of 250 million cubic feet per day. The partial consideration for that, I might explain, was the present service of approximately 40 million cubic feet per day under the arrangement with Montana Power.

Q Would the whole of that 200 million for the Pacific Northwest line be going to the United States?

A Approximately 10 per cent during the first two years of service would be returned to British Columbia.

Q Yes. I was going to suggest that if the gas requirements

of Eastern Canada are to be solved by a reciprocal arrangement, this picture could be rounded out very nicely if you had a line which served Saskatchewan and Manitoba and then make Canadian gas available for the Middle Western States. Would you agree?

A Well, I would suggest that the previous statement which we made as to the economics which would dictate the extension of natural gas transmission lines, if there were no regulations whatsoever, I would take this pipeline to the Pacific Northwest rather than to an area already served in Minnesota. The economics of such a pipeline in my opinion is more satisfactory than on the eastern service.

Q But assuming a scheme could be evolved which would make gas available to British Columbia and the Pacific Northwest as well as eastward to Saskatchewan and Manitoba and the Middle Western States, that is an even better package than you have outlined?

A If everybody could get service it would be much better.

Q Just in regard to your market exhibit, under the tab "5th and 10th year, Residential Sales", there is a series of pages marked number 1 and so on, and I find there annual sales in Mcf.'s with a total figure, for example, marked number 1, Vancouver-Victoria, 5,274,360 Mcf., but on the separate sheets which were distributed subsequently the domestic market for the fifth year of sales in Vancouver is shown at 3,468,000, and there are like discrepancies throughout, and I just wondered if you could explain how that comes about.

A I mentioned that very briefly a moment ago. This estimate

has been based entirely upon the experience gained during the last five to ten years of natural gas operations in the States through those conversions that have taken place through extensions of natural gas transmission lines. It is in our opinion what can be accomplished with a full investment program under comparable market situations and what these markets -- I have lost my sentence there -- what these markets actually accomplish providing such a program is carried out, and in some cases the actual estimates made by utility companies themselves. For the purposes of estimating our load requirements and service requirements we have utilized the local company's testimony and exhibits. However, we feel it was of service to this Board to have the experience which we have gained through a study of these past five to ten years' operations, and we have represented it graphically in a study of each one of these market areas.

Q They deal with the same thing but on a different basis of computation?

A I have been dealing, you notice, with a number of communities we expect to see served within the five year or ten year period.

CROSS-EXAMINATION BY MR. MACLEOD:

Q Mr. Herring, in answer to Mr. Martland you included gas going into Montana to make up the equivalent required to import into Eastern Canada?

A Yes, sir. We are somewhat governed in that by the market requirements of each of the areas.

Q What I wanted to ask you, you refer to an arrangement with Montana Power?

A Yes.

Q Not any arrangement between you?

A No, not at all.

CROSS-EXAMINATION BY MR. McDONALD:

Q Mr. Herring, I understand that you have two projects that you refer to in Exhibit 94, one, the Pacific Northwest line, and the Eastern Canadian line. Now, each of these lines is standing on its own feet?

A That is correct.

Q Each of them can, in your supposition, and will be a financial success. You are not suggesting to us reciprocity to the extent that if there is a deficit on the Pacific coast portion that the people in the East will come in and contribute to that?

A No, sir.

Q And the Eastern Canadian line is entirely on its own feet?

A That is correct.

Q Well, it seems to me you have proved a market, proved a demand, a source of supply. I don't see why you don't build a pipeline. Why should you refer to us here at all?

A I do not believe I get your question.

Q Why don't you go ahead with your line, the Eastern Canadian line, why should you have this reciprocity?

A I think that has been brought out clearly before, the difficulty Panhandle has experienced in an attempt to serve Eastern Canada.

Q So that really we come back to this stage, that we are going to use the influence of Alberta gas on authorities in the United States to make available gas to Eastern Canada?

A To serve 5 million Canadian people, that is correct.

Q The real difficulty is that there is a peak demand for gas in the Central United States in the vicinity of Detroit and Chicago?

A There are very few populated areas in the United States today in which there is not a demand for natural gas.

Q My information is there is a demand for not less than 300 million a day in the Detroit area right now?

A I quite agree.

Q I just wondered why the necessity if this gas is available and is not being used to supply that line?

A I am not in a position to discuss that.

Q Then, following up Mr. Martland's question, wouldn't you have a better chance of this reciprocity proposal if Canadian supplies of gas were delivered in the Chicago area and Detroit area to supplement or fill the void there before allowing Texas gas to come on to Ontario?

A I feel we have established without very much question the very great defence requirements and needs in the Pacific Northwest States.

Q Of course, I am going to suggest to this Board that the Westcoast Company will provide the Pacific Coast from the Northern Alberta fields, leaving all of this gas suggested by Mr. Martland available for your reciprocity deal here.

A That is your suggestion.

Q Mr. Herring, would you turn to page 2 of your Exhibit 94

and see if my calculations are right. At the bottom of the page you have your transportation costs set up and also in the last column your sales price of 85 per cent load factor per Mcf.?

A Yes.

Q Now, in taking the Eastern Canadian line you have 43 cents, say 44 cents, as subject to payment of, first, the service cost in Canada, which is 9.99 cents?

A Which is estimated on a 100 per cent load factor, that 9.99 cents is.

Q You have somewhere in your exhibits the price there at less than that at 85 per cent, have you not?

A Well, the engineering cost will be presented by a later witness. For the purpose of this presentation we show the service cost on 100 per cent load factor. We have increased the cost to correspond with a 85 per cent operating load factor.

Q That leaves you with, say, 34 cents on hand to pay for your gas at the Canadian border?

A A 100 per cent load factor would leave approximately 30 to 32 cents available.

Q That 30 to 32 cents would be applied, first, in payment of 15 cents to the Humble Oil Company or the other suppliers?

A It would provide for the payment to Panhandle Eastern for the delivery of that gas. The resources they use will be their own decision. We have submitted this Humble letter as possible source of gas for Panhandle Eastern in fulfilling their requirements to us.

Q On the proposal of the Humble letter they would have to

pay Humble 15 cents?

A That is right.

Q And that would leave approximately 17 cents for transportation charges in the United States?

A That is correct.

Q Now, let us just clarify this matter of the Panhandle company. Is the Panhandle company itself going to provide this gas from its own fields?

A I am not in a position to discuss their plans at all. I can only state at the present time they are buying from their own field and from other producers, both the Gulf Coast area and the Panhandle.

Q The source of gas Panhandle is going to utilize is not the source of gas which was referred to in the letter which Mr. Nolan questioned you about this morning?

A The El Paso contract?

Q The El Paso contract.

A No, sir.

Q That El Paso contract is entirely abrogated, as I understand?

A That is correct.

Q Now, this expert, or whoever is going to deal with the Panhandle situation, is he going to tell how the Panhandle can pass up this 300 million market in Detroit?

A I think you are referring to a legal question that can best be answered by such an expert.

CROSS-EXAMINATION BY MR. McGRATH:

Q Mr. Herring, as I understand the situation, and as developed by Mr. McDonald, principally, this reciprocity agreement merely means, when boiled down to its final essence, that if the Alberta Conservation Board will permit the exportation of gas to serve the Pacific Northwest American cities and Vancouver, then in reciprocation Prairie Pipe Line will arrange to put gas into Windsor for service in Southwestern Ontario?

A In co-operation with Panhandle Eastern.

Q And you would assume that under those circumstances, that being a reciprocity arrangement, that the Alberta Board would want to be definitely assured of the fruition of the Panhandle-Prairie plan before granting a permit to export gas from Alberta?

A I would like to answer that in this way, Mr. McGrath. I think this Board is faced with a problem in that regard in that any such proposition must be approved by the Federal Power Commission. Accordingly, this is in a similar position with possible legal details in Washington.

Q It would merely be a question of which came first, the chicken or the egg?

A Yes, sir.

Q I was not going quite that far. Now, in Exhibit 94, in the second paragraph, towards the end you state that:

> "Prairie Pipelines has executed a letter of agreement with the Panhandle Eastern Pipeline Corporation in which they agree to deliver 225,000 to 250,000 Mcf."

Now, as a matter of fact, Panhandle Eastern has not agreed to deliver any gas, have they?

A Well, it is subject to the conditions which are outlined in that letter.

Q In other words, in the letter, Exhibit 95, Mr. Buddrus, the president of the company, stated that Panhandle Eastern and Trunkline, the affiliated company, are very much interested in supplying this gas?

A That is correct.

Q Now, then, the other steps that are referred to would necessarily have to be taken before anybody could export any gas from the United States, isn't that true?

A That is correct.

Q Now, you spoke of the difficulties that Panhandle Eastern had encountered in its attempt to export gas to Windsor?

A Yes, sir.

Q Of course, I do not know the extent to which they may have been recited on this record, and so as not to prolong the discussion of it, you are familiar with the fact, are you not, that in 1946 Panhandle Eastern entered into a contract with Union of Canada to sell 500 million cubic feet a year?

A I am familiar with that, yes, sir.

Q You know that Panhandle has never delivered up to that quantity?

A That is correct, sir.

Q And what do you attribute that to? Certain difficulties have prevented that?

A Yes, sir. Again, however, we are getting to the legal question of our natural gas pipelines in the United States,

which I would prefer to defer to our expert witness on that.

Q Now, isn't it a fact that legal problems are not involved so much as demand and requirements for portions of that gas on the United States side of the line which did not permit Panhandle to meet its commitments with Union?

A Yes, sir.

Q They did not have enough gas or enough capacity or a combination of both?

A Under the then arrangement.

Q So over that 5-year period instead of delivering up to $5\frac{1}{2}$ billion a year they have never exceeded about $2\frac{1}{2}$ billion, is that true?

A That is my understanding, sir.

Q And then are you not also familiar with the fact that in March 1950, March 17th, I think, to be exact, and I should call attention to that day -- no, I am wrong, it is March 15, a contract was entered into with Union to deliver from $37\frac{1}{2}$ million cubic feet per day up to 100 million. You are familiar with that?

A I understand so.

Q And that contemplated service not only to Union but through Union to virtually all of the distributing companies as far east as Toronto, and that subsequently because Consumers Gas of Toronto would not go along with the deal the application for the permit was amended and the amounts reduced to range from 25 million cubic feet per day to 67 million cubic feet a day?

A I am not familiar with those details.

Q Generally that is the fact?

A Yes.

Q Isn't it also the fact that within recent weeks, after hearing the claimants along Panhandle's pipelines, including Trunkline, to meet their immediate pressing requirements, the Federal Power Commission has denied authority to export any of that gas to Canada?

A That is correct.

Q Now, do you know of any change in conditions with respect to demand on the United States side of the line or the availability of gas to the Panhandle Eastern system that would so change the situation that there is a likelihood of Panhandle being able to export up to 250 million cubic feet a day to Canada? Do you know of your own knowledge?

A In my opinion, the arrangement which we are presenting before this Board would do that.

Q If it were brought into effect?

A Yes, sir.

Q But there is no assurance that it will be, is there?

A The action of the Federal Power Commission can not be foreseen, no.

Q The action of the Federal Power Commission up to date has been based upon the policy of retaining the gas to the extent the United States has service, the Panhandle Eastern's customers along its line?

A That is correct, but they have never had presented to them the reciprocal arrangement which we propose.

Q It is your opinion, as I take it, that the Federal Power Commission has been in a state of mind prejudicial to the

Canadians and would not send gas over there even though it might be available?

MR. S.B. SMITH: How can we talk about the state of mind of the Federal Power Commission?

MR. McGRATH: Let us call it the policy, then.

MR. S.B. SMITH: Just the same thing.

A THE WITNESS: I think, again, it is a question of law and their execution of that law which has prevented this service of gas across there. There has been no lack of desire on the part of the Panhandle Eastern.

Q And, as a matter of fact, there has been a very strong desire on the Panhandle Eastern to send the gas over?

A That is correct.

Q Now, is it not also a fact that Panhandle Eastern has had a 20-year contract with the Michigan Consolidated Company at Detroit to serve up to 125 million cubic feet a day?

A I am not familiar with the details. I know they have a contract.

Q Are you familiar with the fact there is now pending before the Federal Power Commission an application filed by Panhandle to obtain authority to reduce those deliveries to approximately 87½ million cubic feet a day?

A I am not familiar with that.

Q You do not know that. Now, do you know whether or not it is a fact that all of Panhandle's gas, both owned and subject to contract, gas purchase contracts, in the Hugeton-Panhandle field, has been dedicated to the

Detroit area and other areas extending to the southwest?

A I assume every bit of gas going through the system at the present time is dedicated to a particular contract.

Q Now, are you familiar with the fact that in obtaining a certificate of public convenience and necessity to construct the Trunkline that at that time they showed merely a sufficient amount to deliver the authorized capacity of that line over a 20-year period?

A The initial capacity?

Q Yes?

A That is correct. It has additional capacity by the addition of compressors.

Q Initial capacity of 250 million a day?

A Yes.

Q They can add up to 125 million a day by additional compression?

A Yes.

Q With respect to the Hugeton line, they would have to loop it, or do you know?

A I am not certain.

Q Do you know whether they can get any more gas out of Hugeton than they are presently taking?

A I rather doubt that the president of Panhandle would forecast the use of both facilities by 125 million a day if he was not going to be able to live up to the obligation.

Q He said he is very much interested in it, that is all he said. Now, they have been drawing gas for the Detroit market from the Hugeton field for 20 years now?

A That is my understanding.

Q Other pipeline companies such as the Natural Gas Pipeline Company of America and your own Panhandle have gone to the Gulf Coast to get more gas from Trunkline, so has Natural Gas Pipeline through their wholly owned affiliate Texas-Illinois, and then Northern Natural now is coming up to Canada to try to supplement their supply from the Hugeton field. Let us see. Who else goes across there? Michigan-Wisconsin. Do you know of the contract they have entered into with the proposed Michigan Gulf Pipeline for additional supplies from the Gulf Coast?

A No.

Q You have no knowledge which would lead you to believe any substantial quantities of gas may be taken out of the Hugeton-Panhandle field, have you?

A I am familiar with a program to bring additional gas in there from another source.

Q From the Permian Basin?

A Yes. I am not sure what Mr. Buddrus has in mind as to sources of gas. I am sure he does have definite sources in mind.

Q Those are matters that would have to be cleared up before there can be any assurance of gas being made available at Windsor?

A As well as the Federal Power Commission approval.

Q Well, that is also an essential?

A Yes, sir.

Q Now, of course, the Humble contract can not come into effect unless the Panhandle contract does?

A That is correct.

Q So that they both stand or both fall together?

A I would like to qualify that somewhat, though, Mr. McGrath. The contract with Humble was executed before the Panhandle Eastern Pipeline contract was executed. There are a great many other pipelines at present in service there. I would not completely write off the Humble contract.

Q What I mean by that, that you entered into the Humble contract on November 13th, having in mind the consummation of Panhandle Eastern contract which was executed thirteen or fourteen days later?

A Or some such arrangement.

Q Now, there is no other pipeline company that could deliver gas in the Gulf Coast area, no existing pipeline that could, to Windsor except Panhandle Eastern?

A I would not be so restrictive of the other pipelines by possible slight extensions.

(Go to page 2560)

Q Well, the only other pipe line that runs over there is the Michigan-Wisconsin, isn't it?

A In that particular territory?

Q Yes?

A Yes.

Q And you mean you might bring it into Canada some place along there?

A Yes. It could be easily done.

Q You might bring it into Niagara Falls through the Tennessee Eastern Pipe Line?

A Yes. I do not think it will be satisfactory, or, I mean, I do not think it will be necessary.

Q Yes?

A I think this arrangement is quite satisfactory.

Q If it is satisfactory to you, and if it is satisfactory to the Board, I suppose it should be satisfactory to us.

MR. S. B. SMITH: I hope it is to you too.

Q MR. McGRATH: Before the Panhandle Eastern can get the authority of the Federal Power Commission they will have to instal additional compression, and they will have to show a firm commitment with regard to this amount of gas that they propose to export for a period of 20 years?

A In other words, if we hope to get gas for the Pacific Northwest, and Canada tells us that that is the way we will have to do it, they will have to accept it, to have it returned from the Panhandle Eastern, or not receive it from that source.

Q I do not think you have answered my question. Would not the Panhandle Eastern Company have to show to the Federal Power Commission that it had firmly under contract a 20-year supply

aggregating 20 times 250, I mean 7300 times 250,000 Mcf per day?

A Yes, they would.

Q And you would not expect this Board to accept anything else, would you?

A No, sir.

Q Now, you speak of this saving of $5,000,000.00 a year for the Eastern Canadian consumer, $5,000,000.00 saving as compared with what, what is the basis of that?

A I do not call that a saving. I stated that a difference in the price of 6 cents to those consumers back there, which is approximately the difference between the price which we quoted and one that we quoted earlier, the price between which we quoted and one that was quoted earlier.

Q You meant by that Trans-Canada?

A Yes, that is correct.

Q I was not clear about that, but I wanted to be.

A That is right.

Q Now, in exhibit 97, on page 3, you show a peak-day requirement in 1954-55 of 212,000 Mcf?

A That is correct.

Q And that includes 52,000 Mcf of direct sales?

A Yes, sir.

Q Well, will those direct sales be on a firm basis or an interruptible basis?

A These are on a firm basis.

Q These are on a firm basis?

A Yes.

Q Well, now, will that be served entirely by Canadian gas?

A The present application is for 200 million cubic feet per day from Alberta, which would meet this requirement.

Q Well, you could not meet 200 million a day - you could not meet 212 million a day with 200 million, could you?

A Well, if you will notice . . .

Q That is peak-shaving?

A Yes, with the peak-shaving you could.

Q Well, then, assuming peak-shaving, you still do not meet the 212 a day in the winter of 1954-55, as you show a peak-day requirement of 204?

A That is correct.

Q So that after the first year's operation under your present plant, you would have to seek a further permit for additional gas?

A That is correct.

Q Why aren't you asking for more now than just to take you through the one winter season?

A We would like to have sufficient gas dedicated to such a project to fill the full 5-year growth presented here. We question whether the Board is in a position to do so. In our opinion, we have reasoned out the approximate second year of the operation, and the economic load of the pipe line, the availability of reserves in Alberta, and we have gauged our requirements upon an analysis of that situation.

Q Then, in other words, based upon the appraisal that you have given, as made upon the exportable surplus of gas, you feel that the Board would hardly be warranted in going beyond in any way one year's winter supply until more gas had been discovered, is that right?

A I would not call it one year's winter supply. We would have the ability to serve that from that time for 20 years, but we might have a curtailed operation after the second or third year of operation.

Q In other words, so far as the peak day is concerned, you feel there must be additional gas made available beyond that which is available now to meet your continuing peak through these years you show on page 3?

A As in any other market, that is correct.

Q What do you mean by "as in any other market"?

A I do not know of any other market in the United States that has not grown as fast as this here.

Q Yes, but the practice does not prevail in the United States to allow a pipe line company to enter into business unless it can show ability to meet the peak day requirements beyond the first year's operations, isn't that true?

A I am not entirely familiar with that particular point, Mr. McGrath. I think the second year requirement is a very reasonable basis upon which to base financing of such a project.

Q Financing?

A Yes.

Q I won't pursue that, because we are getting into the United States features of it, perhaps. Now, under your contract with Humble you must take or pay for 112 million cubic feet a day on the average?

A 75%, yes.

Q And you have no take-or-pay arrangement outlined with regard to your letter with Panhandle, exhibit 95?

A No. The various terms and conditions were outlined verbally.

I was not present at the meeting, and I am not entirely familiar with it.

Q That is a usual provision, is it not, 75% take or pay-for it?

A Yes, it is.

Q So that if Panhandle did enter into a contract, and there was a 75% take or pay-for clause, you would have more gas than what you have really designed your plan for in the first initial year, wouldn't you?

A I do not believe I understand the question.

Q Well, if you got 75% of 150, which you would get from Humble, you would take 75% of the 250 that you are talking to Panhandle about?

A I might clarify that right now, Mr. McGrath.

Q All right?

A We do not contemplate both of these volumes of gas being delivered in Eastern Canada. Our estimate of the Canadian requirement is 250 million cubic feet of gas per day. The Humble contract has been made available to Panhandle if it desired to utilize that gas in supplying the requirements under the agreement which we have submitted here as exhibit humber 95.

Q In other words . . .

A In other words, the Humble contract is not in addition to the agreement with Panhandle.

Q Well, the Humble contract, then, you interpret that to mean that Panhandle could purchase the Humble gas for other markets than Eastern Canada, is that right?

A Well, sir, I think that it is very specific as to where it

can go.

Q Is that right?

A If Panhandle wants to make use of it, we will assist Panhandle in securing this gas which we submit in evidence here. Whether they do or not, I do not know.

Q If Panhandle wants to make use of it for the Eastern Canadian market, you mean?

A Yes.

Q In other words, if Panhandle should agree to deliver up to 250 million cubic feet per day to you, or to your company . . .

A That is right.

Q . . .you would not need this Humble contract? Is that what you are saying?

A That is correct.

Q And you do not consider the contract binding then on you, the contract to buy this gas?

A No, I do not.

Q Now, if you should buy the gas from Humble, Humble is required to deliver it at a central point in one of several fields which it may choose?

A Yes, sir.

Q What arrangement would be made for the gathering of that gas to bring it into Panhandle's Trunkline system?

A Well, the details of the contract which were discussed later were also discussed verbally, and I was not present at that discussion either. I am quite certain they did discuss both gathering and delivery pressure.

Q There would be the cost of delivering that gas to put it into

the Panhandle system, wouldn't it?

A I presume so.

Q You have not made any study how much that would be?

A I am not familiar with it.

Q And the price that Humble quoted to Prairie is at the central gathering point in each one of the respective fields?

A That is my understanding.

Q So that, then, it costs in addition to that the gathering from these several fields, and putting it into the Panhandle's Trunkline, that would be an element of additional expense which is not provided for here?

A That is correct. I might add that on the question of the trunkline Humble has sufficient reserves at any one of several points to make such delivery that we might require here, they have the right to keep those reserves and make deliveries as they see fit.

Q Did you make an estimate of Humble's reserves, as a geologist?

A No, sir, I have not. I have read other geologists' estimates of those reserves.

Q I think I am very nearly through, Mr. Chairman. Now, this may be clear on the record, but I am not sure, and I just want to ask this one question: On page 4 of exhibit 94 you state that:

> "The market companies have likewise testified as to their readiness to purchase natural gas when it is made available."

Does that include the Eastern Canadian companies?

A Toronto and Union at Windsor have both testified out here.

Q In these proceedings?

A Yes, that they are ready to buy gas in Eastern Canada.

Q Gas transported across the country?

A Yes. Let me qualify that, either across the country or as to any other such arrangement. The question was put specifically as to that and there was no such definition of it.

Q In other words, I am calling to your mind the fact that Tennessee Gas Transmission Company has had an arrangement with the consumers of Toronto?

A Yes, sir.

Q And that plan has not been abandoned, so far as you know, has it?

A I am not familiar with it at this time.

Q So that you have no assurance from the consumers of Toronto that they would buy gas from Prairie in preference to buying it from Tennessee?

MR. S. B. SMITH: The consumers we heard here all gave evidence a few months ago.

Q MR. McGRATH: I did not understand that they had, but if they say that they would buy the gas, who they would buy the gas from?

A They have not been specific on that point.

Q You have not any contrac with them?

A They do desire natural gas, that is the understanding.

Q And to the extent that they would not buy, your plan would have to be adjusted?

A Yes.

Q If that should be correct?

A Yes.

Q Readjusted?

A Yes.

Q That is all I have, and thank you very much, Mr. Chairman.

CROSS-EXAMINATION BY MR. MAHAFFY:

Q Mr. Herring, you have been doing a tour of the situation in the United States, and I would like you to come back to Alberta with me for a minute, if you do not mind, to this end of the scheme?

A Yes.

Q This exhibit has not yet been filed, I realize, but I assume it is to be submitted?

MR. S. B. SMITH: Not by Mr. Herring.

Q MR. MAHAFFY: By some other witness, entitled "Marketing, Engineering and Economic Studies of Proposed Gas Facilities". And the only reason I refer to that, Mr. Herring, is with regard to a map in it with which I imagine you are familiar, and it shows a gathering system in the Province of Alberta.

A Yes, sir, which we previously submitted.

Q At previous hearings? At the earlier hearings?

A Yes, sir.

Q Yes. Now, I just wanted to ask you this, Mr. Herring: Is it of much concern to Prairie whether it purchases its gas direct from the fields or whether it purchases its gas from an independent gathering system operating in the Province of Alberta?

A I believe we made a statement with respect to that last year, that we realized that the Conservation Board here in Alberta has a very serious problem in providing for the future protective requirements, which they discussed both

in the Interim Report and verbally, and from that point of view we have no objections to purchasing from a grid system, or from the well head, or in such other manner as the Board may direct, which will fit the plan which they evolve to protect the requirements of the Alberta consumer on the basis which they have outlined, provided that we have an economic pipe line system with a 20-year contract on this end and a 20-year contract to the markets with the ability to earn 7% or 6½% on the investment in between.

Q Yes. Now, on that same point, would I be right in assuming from what you have just said that if you were buying from the Provincial gathering system, say, at the Provincial boundary, am I right in assuming that in your view that would not adversely affect the financing of your export line?

A Realizing that we have a price on the market end of the pipe line to sell gas, with that in mind, and a project that we can make 6½% on our invested capital in between, we would have no difficulty whatsoever financing, in my opinion, and we can supplement that by expert testimony, if desired, that we had that ability. In other words, the actual source of the gas would have no bearing, in my opinion, if we had the ability to earn 6½% on our investment and sell the gas in doing so.

Q Thanks very much, Mr. Herring.

(Go to page 2570.)

CROSS-EXAMINATION BY MR. STEER:

Q I just want one bit of information from you, Mr. Herring. You put forward at a previous hearing a scheme under which the Canadian Western deficiency was to be met in the future?

A Yes, sir.

Q You have nothing to add to that?

A No, sir. It is included in the engineering costs' estimates which we will present at this Hearing.

Q I see?

A That is still very much part of our program now, if it meets the requirements of C.W.N.G., and the provisos which the Board gives for that with any established surplus.

Q I see.

MR. MAHAFFY: Mr. Chairman, if I may be permitted to ask a question which I omitted to, and which I intended to ask?

THE CHAIRMAN: Yes.

....

CROSS-EXAMINATION BY MR. MAHAFFY:

Q Mr. Herring, in your experience in the United States, are there occasions down there where a transmission company, say, like the Trans-Continental Transmission Line, buys gas, not from fields directly but from gathering systems?

A Yes. There are several major transmission lines buying gas from the United Gas Pipe Line Corporation, which has an extensive gathering and distributing system, and is an extensive gathering and distributing company in Louisiana, Mississippi, and Texas, and taking their gas from

that source at its Eastern boundary, and carrying it from that point on to their market in the East.

Q Does the gas so handled run into substantial volume?

A I am familiar with one contract with the Texas Eastern which is for 350 million cubic feet per day.

Q It is quite a substantial volume?

A Yes.

Q And has there been any difficulty in working out those arrangements, as far as you know?

A As far as I know, no.

Q Thank you.

....

RE-EXAMINATION BY MR. S. B. SMITH:

Q Mr. Herring, Mr. McGrath was talking to you about the necessity of establishing before the Federal Power Commission by Panhandle Eastern of its reserves in Texas, and the necessity of obtaining a certificate of Convenience and Necessity from the Federal Power Commission. Now, you have been describing these proposed arrangements of yours as a reciprocal exchange, which the very words themselves appear to import an arrangement by two companies of the exchange of assets. In your view, is the very necessity of having Panhandle having to establish before the Federal Power Commission the reserves in Texas, and the necessity of obtaining a certificate from the Federal Power Commission, a protective factor so far as the people of Alberta are concerned, in respect to the export of gas from this Province?

A Yes. I am quite sure that the Federal Power Commission

would not approve such an arrangement if they were not able to live up to the expectation that they would receive that assured supply.

Q Therefore, Alberta would be assured, under your proposed arrangement, before Alberta gas goes out that Texas gas would be available for Ontario?

A That would be the basis for it, yes.

Q Now, Mr. Herring, who are Panhandle Eastern Pipe Line Company, and how long have they been in business?

A Well, Panhandle was built back in the '30s to transport gas from the Panhandle to Michigan, and the Chicago area. I am not entirely familiar with the earlier origin, but I do know that with the natural expansion of the company, they are delivering in excess of 850 million cubic feet per day.

Q Quite a fair-sized organization?

A Yes, they are well established.

Q Do you think they have a fair realization of the realities of the situation in entering into Exhibit 95?

A In my opinion, they would.

Q Thank you.

MR. BREDIN: If I might ask one question, sir?

THE CHAIRMAN: Yes.

....

CROSS-EXAMINATION BY MR.BREDIN:

Q Mr. Herring, taking you back from Alberta to Ontario, I wonder why you draw your pipe line through the little villages like Alexandria and not through the cities of Cornwall and Prescott, which are largely industrial? Has that any significance in it?

A Well, the actual route of the line has been selected on the

best engineering location of it. I believe if you will note the exhibit of last Fall, we included service at those other points, although we may not have illustrated it directly.

Q So that they will be served, that is your intention?

A Yes, sir. In fact, one of the industrial loads is located there.

....

EXAMINATION BY MR. C. E. SMITH:

Q Mr. Herring, let us continue for one moment with regard to what Mr. McGrath was talking about in connection with your 200 million peak day, and I think that you indicated to him the possibility in the second year that you might be back, and correct me if I am wrong, you might be back to this Board with an application for a further amount of gas. Did I get you correctly in that?

A If gas is available in additional quantities, after the first approval of this application, we certainly would be one of those that would be applying for it.

Q Well, tell me this, in your present set-up, if I might call it that, do you include Countess, Cessford, Princess, and some field near Medicine Hat as a source of supply, or are you just talking about Pincher Creek?

A No, sir. I believe we outlined in the exhibit filed previously, the deliverability schedules, as to the requirements which we forecast. Now, I have forgotten the exhibit number of that.

Q Do you remember whether that was on the basis of this 200 million then?

A Yes, it was.

R. R. Herring,
Exam. by Mr. C. E. Smith

Q And do you know whether or not it included these fields? The reason I mentioned that is, I take it from the submission that the Company is going to put in, the marketing, engineering and economic studies of proposed gas facilities, I notice that you have some dotted lines going up to Princess, Cessford, Countess and Medicine Hat?

A Yes, sir.

Q You know what I am talking about?

A Yes, sir.

(Go to page 2575)

Q I wondered if you had this in mind when you were thinking of peak days, even a year or two hence?

A Well, sir, we had proposed that that gathering system be built in the third or the fifth year, in between, in steps. The engineering will be submitted on that basis.

Q There is no suggestion there is an application for more than the amount you state in here?

A No.

Q I wanted to be certain of that first. And if you anticipation as to peak day is true, you feel you have to come back?

A To take care of the full expansion available for the market, that is correct.

Q If your anticipated expansion took place?

A And normal growth.

Q Another thing about El Paso and so on, this business of El Paso, does that eliminate that line from down south up to the Pacific Northwest?

A From that source, yes, sir, that is correct.

Q There is another map that brings us more up to date now?

A We have not changed in any way our previous application before this Board.

Q You now have three methods?

A Variations, yes, sir, based upon the volume of gas from Alberta.

Q Just one other thing. With respect to Exhibit 94, if I remember correctly what you said, at the bottom of page 2, correct me if I am wrong, in this 2, I think it refers to 33 to 34 cents estimated sales price at 85 per cent load

factor. I thought you interjected your figure on a field price of 10 to 11 cents?

A That is correct. That is what we used in that estimate.

Q Is that just a judgment figure?

A Yes.

Q You have not any contracts or anything?

A None at all.

Q Or options, anything of that kind?

A That is correct.

Q Now, is there any price we can relate to your 43, 44 cents to Eastern Canadian lines similar to the 10 and 11 in the other one ?

A I am not completely familiar with what Panhandle is paying for gas on the Gulf Coast today. We could obtain that information and submit it.

Q What I am getting at, there is nothing in the Panhandle letter, if I remember, about pipe at all?

A No, sir. It will have to be figured on the basis of what they pay for gas.

Q Is the price suggested in the Humble letter, 15, 16, 17, up to 18, of any use?

A No, sir, because we have no indication they would utilize that. We do use that to indicate gas availability in the Gulf Coast region. We have estimated that at their present service cost of gas extending it to include this 250 million a day that their sales price would be somewhere in the neighbourhood of 30 to 32 cents.

Q Somewhere in that neighbourhood?

A Of 30 to 32, delivered at Windsor.

Q But you do not go back any further than that estimate, anything that would relate to field price?

A No, sir. It is based upon the way that they are operating at the present time and their present contract, and I do not have that information readily available but I think we can obtain it and submit it.

Q If it is easily available, it might be of some use, Mr. Herring. I think there is one other thing with respect to your Pacific Northwest line, if I may put it that way. Is there any place where it is indicated to us what, if any, communities in Alberta could be served, Alberta or B.C. probably?

A Yes, sir.

Q Towns or villages?

A Yes, sir. We have listed in this submission No. 97, I believe, --

Q Well, if it is in there that is all I want to know.

A We have listed them.

Q I tried to look through that but it is rather large for me. They are in there?

A Yes.

Q Towns anticipated to be served as a result of your building this line?

A Yes, sir, with the exception of the gathering system, and we stated there were numerous towns adjacent to it that we would make gas available for.

Q By the way, having reference to page 4 of your Exhibit 94, have you read a submission that is to be presented by Mr. Mahaffy's Inter-Grid?

A Yes, sir.

Q Don't you think because of reading that you might go out and make firm contracts with producers?

A Well, we have not considered it from that point of view. We are quite ready to contract for gas under the direction of the Board.

Q I suppose if this Act and a certain part of the lease is ultra vires there is no reason why you should not, Mr. Herring? Never mind answering.

EXAMINATION BY DR. GOVIER:

Q Mr. Herring, there are a few things in connection with the load factor on the market end of the line I am not certain about. Would you look first at page 3 of your Exhibit 97. Am I right that the total sales tabulated in millions of cubic feet by years represents the total of direct sales, sales through distributing companies, and includes all interruptible load? It is a total, is it, in that sense?

A Well, the direct sales cover the direct industrial sales. The sales for re-sale of utilities includes their firm load and their interruptible load. In addition to this, we have available from interruptible load to the pipeline if the pipeline can utilize it in increasing the pipeline operating load factor.

Q Now, it is that additional amount I was not clear on. Is that included in the figure 19?

A We have not included it in there, direct interruptible sales, no, sir.

Q I see. No interruptible sales are included?

A That is correct, which gives the utility the ability to maintain a 70 per cent load factor.

Q Now, perhaps you would look at the chart which follows page 5, and I would like to ask you first what year this chart is for?

A This is based on 200 million a day peak, which would be the second operating year.

Q Second year. And that 200 million minimum peak, does that correspond with the figure 204 that shows on page 4?

A Yes, sir, that is correct.

Q That is, after the utility companies have done some load levelling to get the 70 per cent point?

A Well, we illustrate here -- you mean by that, peak shaving?

Q Yes?

A Yes, that is correct.

Q So that the value of 200 checks the figure of 204?

A Yes, sir.

Q And does that mean, then, Mr. Herring, that the total sales represented by this entire plot should check out the figure of 59.462 billion cubic feet which also appears on page 4?

A No, sir. I qualify that in this way, the sales which we forecast as 59 billion 462 million would be fulfilled by maintaining the utility load factor at 70 per cent, which means that you would have to fill in this valley below the 70 per cent line to reach that 59 figure. It does not contemplate filling in the valley above the 70 per cent utility load factor line. It contemplates approximately a 79.8 per cent pipeline operating load factor. The 70 just illustrates that point and could be

improved still further by some direct interruptible sales above that 70 per cent utility load factor line. Incidentally, that line represents the 79.8 operating load factor for the pipeline itself.

Q I still have not got it, Mr. Herring, I am sorry.

A Well, sir, in order to show the 59 billion yearly you would have to shade in the white section of the chart below the 70 per cent utility load factor line.

Q And does that represent the amount of industrial interruptible load which the utility companies would furnish?

A What sale this is? That is your indirect interruptible sales.

Q I thought that amount was already included in the 59 billion?

A That is correct, but in order to reflect the 59 billion you would have to fill that in with interruptible sales.

Q I see. So that we could label the white area which lies below the dotted line and above the shaded area as utility interruptible industrial load?

A Yes.

Q Required to give the utility the 70 per cent load factor?

A Yes, which in turn gives the pipeline a 79.8. I believe that is correct, sir, yes.

Q And it gives the pipeline the 79.8 because of the direct sales, isn't that correct, Mr. Herring?

A That is right.

Q Now, will you go one step further with me and tell me, just elaborate a little bit on how you expect to get the pipeline operation up to 85 to 90 per cent load factor,

as mentioned on page 5?

A Well, sir, first of all a pipeline can utilize factors of load packing and of deviation in the occurrence with the peak day, which varies very widely in this market area as illustrated on the degree day efficiency chart. You have ability to deliver in excess of that amount. In other words, your peak day requirement will not be required at a certain point when it is at another point, your year-around ability to deliver would increase from that point of view. Now, then, in addition to that, there are isolated industries along this pipeline route which are not contemplated to being served direct firm in that presentation and which are available to this pipeline company as interruptible markets. Many of those are food processing units in the Yakima Valley which are a summertime load. Those loads that are available, plus the operation of his pipeline, he can maintain an 85 per cent or better load factor operation. In addition, I might add one more point. It is our opinion that the utilities on the West Coast can operate at better than 70 per cent load factor by the proper utilization of surplus industrial loads at two points, primarily Tacoma and Bellingham. They have a very great surplus of industrial there which can not be firm because of the competitive price situation. It should be made available to all of those interests to improve the load factor. No definite arrangement has been worked out on that.

Q I suppose you might say you calculate the pipeline load factor at 79.8 but because of these three or four additional

factors you feel confident that in practice it can operate at 85 to 90?

A Yes, sir.

Q I see. Thanks very much.

THE CHAIRMAN: Mr. Smith, have you any further evidence at this time?

MR. S.B. SMITH: Yes, I have my next witness available and he has quite substantial briefs. I wondered whether it would be worth while commencing today.

THE CHAIRMAN: Would you mind Mr. Dunkley going on in the morning?

MR. S.B. SMITH: No, that would be suitable to us.

THE CHAIRMAN: He won't take very long.

(The Hearing then adjourned until 9:30 A.M., Thursday, December 6th, 1951.)

The Province of Alberta

PETROLEUM AND NATURAL GAS CONSERVATION BOARD

IN THE MATTER OF THE GAS RESOURCES PRESERVATION ACT

AND IN THE MATTER OF the application of Westcoast Transmission Company Limited and Westcoast Transmission Company Ltd. (Alberta Incorporation) for a permit authorizing the purchase and sale of Natural Gas in the Province of Alberta for transmission to points in the Province of British Columbia and the States of Washington and Oregon in the United States of America.

I. N. McKinnon Esq., Chairman

D. P. Goodall Esq.

Dr. G. W. Govier

Session:

Volume_____________